United States
Department of
Agriculture

**Forest Service**

Pacific Northwest
**Research Station**

Research Paper
PNW-RP-372
January 1987

# Multivariate Analysis of Climate Along the Southern Coast of Alaska — Some Forestry Implications

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## Abstract

**Farr, Wilbur A.; Hard, John S.** Multivariate analysis of climate along the southern coast of Alaska--some forestry implications. Res. Pap. PNW-RP-372. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station; **1987.** 38 p.

A multivariate analysis of climate was used to delineate 10 significantly different groups of climatic stations along the southern coast of Alaska based on latitude, longitude, seasonal temperatures and precipitation, frost-free periods, and total number of growing degree days. The climatic stations were too few to delineate this rugged, mountainous region into distinct climatic zones.

Keywords: Climate, multivariate analysis, coastal Alaska, Alaska (coastal).

## Summary

Ten significantly different climatic groups were delineated along the southern coast of Alaska based on a multivariate analysis of 24 variables. The 60 climatic stations used in the analysis were too few, however, to delineate this long (2,500 miles), rugged coastal region into distinct climatic zones.

Climatic data for the period 1957-71 were used in the analysis because the greatest number of climatic stations had continuous records for that period. Principal component analysis was used to identify the significant factors that accounted for a large percentage of the total variance. Independent station scores were then used as input for a hierarchical grouping procedure. Multiple discriminate analysis was applied to test significance of the grouping procedures.

Differences in climate among most groups was not great. Changes were often gradual rather than abrupt. Only three groups were obviously different. They were (1) the treeless Aleutian Islands, (2) the transition zones between the coast and the interior, and (3) the very wet coastal stations.

Abrupt changes in vegetation do not generally occur along the coast except in the transition zones between the maritime coast and the continental interior, or along elevational transects. Species diversity is greatest in the transition zones. The relative geologic youth of the region contributes to a lack of species diversity.

## Contents

## Introduction

The southern coast of Alaska is a long, narrow strip of land that forms an arc covering a coastal distance of about 2,500 miles. Latitude ranges from 52° N. in the Aleutian Islands to 61° N. in upper Cook Inlet, and longitude from 130° W. in southeast Alaska to 172° E. at the tip of the Aleutian Islands (fig. 1). This region of Alaska lies within the maritime climatic zone, a zone influenced by the Alaska Current. The Alaska Current is part of the Kuroshio Current, which flows northward from the equator (Searby 1969).

Compared to most of the vast interior of Alaska, the southern coast is cooler in summer, warmer in winter, and has more precipitation. Surface winds are moderately strong in most areas, and storm tracks pass from west to east along the coast every month of the year. From Cook Inlet east, the region is rugged and mountainous, and the lower elevations are heavily forested with western hemlock and Sitka spruce.[1/] Forests reach their western limit on Kodiak and Afognak Islands and on the nearby eastern side of the Alaska Peninsula. Wet tundra and gentler terrain characterize the naturally treeless outer Alaska Peninsula and Aleutian Islands.

Climate along the coast seems to be relatively uniform especially near sea level, but we do know that some areas are climatically and biologically dissimilar. Tree growth, for example, diminishes with increasing latitude (Farr and Harris 1979, 1983), and distribution of plant species and plant communities differs from area to area (Hulten 1968, Viereck and Little 1972). The southern part of southeast Alaska is the northern limit of three tree species—western redcedar, Pacific yew, and Pacific silver fir—and several other plants including salal and swordfern.

Frequency and severity of major outbreaks by defoliators, such as blackheaded budworm and hemlock sawfly, also diminish with increasing latitude and decreasing temperature during the growing season (Hard 1974, 1976), and western hemlock looper has been recorded only in the southern part of southeast Alaska (Torgersen and Baker 1967). Large bark beetle outbreaks in the coastal region occur frequently only around Cook Inlet (Curtis and Swanson 1972, Werner and others 1977).

Two previous studies of climate in relation to tree growth have included climatic data from along the southern coast of Alaska. One study describes climate in southeast Alaska (Andersen 1955); the other discusses potential evapotranspiration and climate in Alaska using Thornthwaite's classification (Patric and Black 1968).

The purpose of the study reported here was to determine if discrete climatic zones or climatic station groupings could be delineated along the coast and, if so, which combinations of variables best distinguish among the zones or groups.

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[1/] Scientific names for plants and insects are given in the appendix.

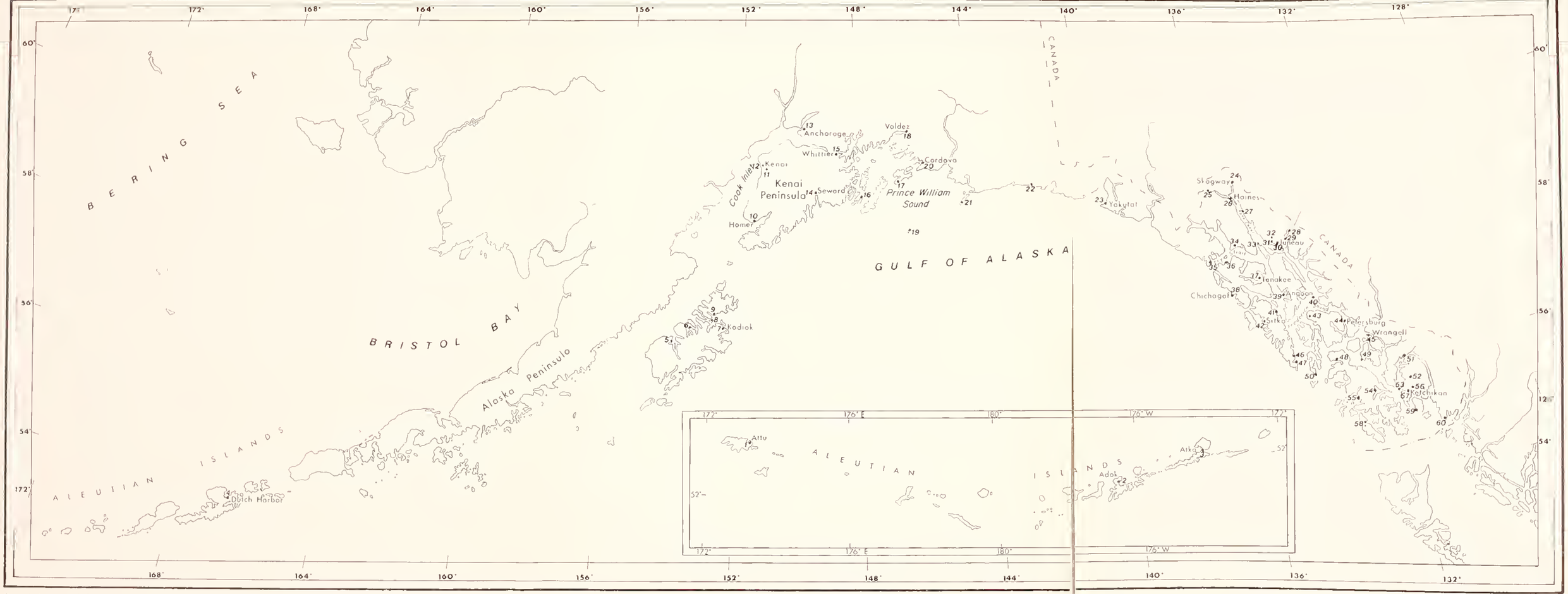


Figure 1—Locations of climatic stations along the southern coast of Alaska.

Several climatic variables and periods of record have been used to analyze climate. Commonly used variables include maximum, mininum, and mean air temperature and precipitation by month or season of the year; number and timing of frost-free periods; degree days above various threshold temperatures; and latitude, longitude, and elevation (Newnham 1968, Nicholson and Bryant 1972). Water deficiency values (Powell and MacIver 1976) and seasonal snowfall (van Groenewoud 1984) have also been used. In most studies the period of measurement has been the same for all stations and is usually 10 to 15 years in length.

Multivariate methods, including principal component analysis, factor analysis, cluster analysis, hierarchical grouping analysis, and discriminant analysis, have been used to delineate climatic zones, especially in Canada. Principal component analysis was the preferred method in some studies (Miller and Auclair 1974, Newnham 1968, Nicholson and Bryant 1972, van Groenewoud 1984, Williams and Masterton 1983) and factor analysis was used in others (MacIver and others 1972; Powell and MacIver 1976, 1977). Principal component analysis and factor analysis have much in common, but there are some important differences (Isebrands and Crow 1975, King 1969). Recently, some form of cluster analysis has been used in addition to principal component or factor analysis to statistically group climatically similar stations (van Groenewoud 1984; Powell and MacIver 1976, 1977).

This study should lead to a better general understanding of climate along the southern coast of Alaska and of climate's potential influence on biological phenomena, and will provide background for more specific studies.

## Methods

Climatic data were summarized for 60 coastal stations along the southern coast of Alaska, generally for the 15-year period 1957-71 (table 1, also see appendix for individual station summaries). Some stations had shorter periods of record that occurred 40 to 50 years ago. The years between 1957 and 1971 were chosen because the greatest number of stations had continuous records for that period. Records for several of the lighthouse stations were discontinued by the mid-1970's. Only 19 of the 60 stations had continuous or nearly continuous records for the most recent 30-year reporting period, 1951-80.

Twenty-four variables were used in the analysis (table 2). Temperature, precipitation, and frost data were obtained from monthly weather summaries (U.S. Weather Bureau 1912-1980). Average seasonal temperatures and total seasonal precipitation were calculated by seasons: winter—December, January, February; spring—March, April, May; summer—June, July, August; and fall—September, October, and November. The total number of annual degree days above 41 °F. was calculated from monthly temperatures, then was adjusted upward for those days that were missed at the beginning and end of the growing season because only average monthly temperatures were used.[2/] Elevational differences could not be evaluated because all but six coastal stations are below 100 feet in elevation (table 1).

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[2/] For 14 representative stations, a regression relationship was developed between degree days based on daily temperatures (Y) and degree days based on monthly temperatures (X). The equation was:

$Y = 103.40 + 1.063X$; $r^2 = 0.992$ and $Se = 42.5$.

## Table 1—Climatic stations along the southern coast of Alaska that were used in the analysis

| Number | Name | Period of record | Latitude N. | Longitude W. | Elevation |
|---|---|---|---|---|---|
| | | | | | Feet |
| 1 | Attu | 1961-71 | 52°50' | 1/ 173°11' | 70 |
| 2 | Adak | 1957-71 | 51°53' | 176°39' | 15 |
| 3 | Atka | 1936-49 | 52°13' | 174°12' | 36 |
| 4 | Dutch Harbor | 1930-34 | 53°55' | 166°30' | 47 |
| 5 | Larsen Bay | 1957-65 | 57°32' | 154°00' | 15 |
| 6 | Uganik Bay | 1952-64 | 57°43' | 153°19' | 50 |
| 7 | Kodiak NAS | 1957-71 | 57°45' | 152°31' | 21 |
| 8 | Whale Island | 1924-38 | 57°58' | 152°46' | 8 |
| 9 | Kitoi Bay | 1957-71 | 58°11' | 152°21' | 15 |
| 10 | Homer WSO | 1957-71 | 59°38' | 151°30' | 67 |
| 11 | Soldotna 6 W | 1962-71 | 60°28' | 151°14' | 85 |
| 12 | Kenai FAA AP | 1957-71 | 60°34' | 151°15' | 86 |
| 13 | Anchorage WSO AP | 1957-71 | 61°10' | 151°01' | 114 |
| 14 | Seward | 1957-71 | 60°07' | 149°27' | 70 |
| 15 | Whittier | 1957-71 | 60°47' | 148°41' | 31 |
| 16 | Latouche | 1940-55 | 60°03' | 147°54' | 45 |
| 17 | Cape Hinchinbrook | 1957-71 | 60°14' | 146°39' | 185 |
| 18 | Valdez | 1957-71 | 61°08' | 146°21' | 20 |
| 19 | Middleton Island | 1943-58 | 59°28' | 146°19' | 39 |
| 20 | Cordova | 1957-71 | 60°30' | 145°30' | 41 |
| 21 | Cape St. Elias | 1957-71 | 59°48' | 144°36' | 58 |
| 22 | Yakataga FAA | 1953-67 | 60°05' | 142°30' | 27 |
| 23 | Yakutat WSO AP | 1957-71 | 59°31' | 139°40' | 28 |
| 24 | Skagway | 1922-36 | 59°28' | 135°19' | 18 |
| 25 | Linger Longer | 1960-71 | 59°26' | 136°17' | 700 |
| 26 | Haines Terminal | 1957-71 | 59°16' | 135°27' | 175 |
| 27 | Eldred Rock | 1957-71 | 58°58' | 135°13' | 55 |
| 28 | Taku Pass | 1936-44 | 58°33' | 133°40' | 175 |
| 29 | Annex Creek | 1937-51 | 58°19' | 134°06' | 24 |
| 30 | Juneau NO 2 | 1957-71 | 58°18' | 134°24' | 25 |
| 31 | Juneau WSO AP | 1957-71 | 58°22' | 134°35' | 12 |
| 32 | Juneau 9 NW | 1939-43 | | | |
| | | 1966-70 | 58°25' | 134°32' | 120 |
| 33 | Point Retreat | 1957-71 | 58°25' | 134°57' | 20 |
| 34 | Gustavus | 1956-68 | 58°25' | 135°44' | 17 |
| 35 | Cape Spencer | 1957-71 | 58°12' | 136°38' | 81 |
| 36 | Gull Cove | 1941-52 | 58°12' | 136°09' | 18 |
| 37 | Tenakee | 1941-50 | 57°47' | 135°15' | 19 |
| 38 | Radioville | 1936-50 | 57°36' | 136°09' | 15 |
| 39 | Angoon | 1942-52 | 57°30' | 134°35' | 35 |
| 40 | Five Finger Light | 1957-71 | 57°16' | 133°37' | 30 |
| 41 | Baranof | 1943-57 | 57°05' | 134°50' | 20 |
| 42 | Sitka FAA AP | 1957-71 | 57°04' | 135°21' | 15 |
| 43 | Kake | 1920-23 | | | |
| | | 1930-34 | 56°59' | 133°57' | 8 |
| 44 | Petersburg | 1957-71 | 56°49' | 132°57' | 50 |
| 45 | Wrangell | 1957-71 | 56°28' | 132°23' | 37 |
| 46 | Little Port Walter | 1957-71 | 56°23' | 134°39' | 14 |
| 47 | Port Alexander | 1950-61 | 56°15' | 134°39' | 18 |
| 48 | Calder | 1917-31 | 56°10' | 132°27' | 20 |
| 49 | Lincoln Rock | 1953-67 | 56°03' | 132°46' | 25 |
| 50 | Cape Decision | 1957-71 | 56°00' | 134°08' | 39 |
| 51 | Bell Island | 1934-48 | 55°55' | 131°35' | 10 |
| 52 | Fortmann Hatchery | 1912-26 | 55°36' | 131°25' | 132 |
| 53 | Guard Island | 1957-68 | 55°27' | 131°53' | 20 |
| 54 | Hollis | 1954-62 | 55°28' | 132°40' | 15 |
| 55 | Craig | 1938-52 | 55°29' | 133°09' | 13 |
| 56 | Beaver Falls | 1957-71 | 55°23' | 131°28' | 35 |
| 57 | Ketchikan | 1957-71 | 55°21' | 131°39' | 15 |
| 58 | View Cove | 1933-46 | 55°04' | 133°04' | 13 |
| 59 | Annette Island | 1957-71 | 55°02' | 131°34' | 110 |
| 60 | Tree Point Light | 1957-70 | 54°48' | 130°56' | 36 |

1/ Attu is at 173°11' E. longitude.

**Table 2—Variables used in the principal component analysis**

| Number | Abbreviation | Name |
|---|---|---|
| 1 | LAT | Latitude |
| 2 | LONG | Longitude |
| | | Maximum temperature (°F): 1/ |
| 3 | MMATWIN | Winter |
| 4 | MMATSPR | Spring |
| 5 | MMATSUM | Summer |
| 6 | MMATFALL | Fall |
| | | Minimum temperature (°F): 1/ |
| 7 | MMITWIN | Winter |
| 8 | MMITSPR | Spring |
| 9 | MMITSUM | Summer |
| 10 | MMITFALL | Fall |
| | | Mean temperature (°F): 1/ |
| 11 | MTWIN | Winter |
| 12 | MTSPR | Spring |
| 13 | MTSUM | Summer |
| 14 | MTFALL | Fall |
| | | Mean precipitation (inches): |
| 15 | PREWIN | Winter |
| 16 | PRESPR | Spring |
| 17 | PRESUM | Summer |
| 18 | PREFALL | Fall |
| 19 | FFREPER | Mean frost-free period (days) |
| 20 | FFRFALL | Mean date first fall frost 2/ |
| 21 | LAFRSPR | Latest spring frost 2/ |
| 22 | EAFRFALL | Earliest fall frost 2/ |
| 23 | SHFRFRPE | Shortest frost-free period (days) |
| 24 | DEGREE | Degree days above 41 °F |

1/ Mean daily temperature by season: winter--December, January, February; spring--March, April, May; summer--June, July, August; fall--September, October, November.

2/ Days since January 1.

Principal component analysis was used to identify the significant factors that accounted for a large percentage of the total variance. Principal component analysis produced correlation matrices and their associated eigenvalues and eigenvectors. Eigenvector coefficients multiplied by the input variables for each station were summed to derive weighted station scores for each station.

The independent station scores were used as input for a hierarchical grouping procedure (Powell and MacIver 1976, 1977; Veldman 1967) that, through stepping, groups stations by minimizing the increment of within-group station score variation. In the first step each station is placed in a separate group. The procedure then groups stations, one entry at a time, until all stations are in one group. At each step, the output lists the stations in each group and the aggregate within-group error. The relation between aggregate error and number of groups was used to look for inflection points where large increases occurred in the error between steps.

When a minimum number of groups was selected, multiple discriminate analysis was applied to test significance of the grouping procedures and to identify the major discriminating variables (Mather 1969, Powell and MacIver 1977).

## Results and Discussion

Several computer runs using data from various combinations of stations produced similar results. In the final analysis all stations were used, although not all had similar periods of record. The results presented here must be considered first approximations because (1) relatively few data have been collected along the coast, (2) all stations do not have the same period of record, and (3) most data came from stations at or near sea level and immediately adjacent to salt water.

The matrix of correlation coefficients showed that many of the original 24 variables were highly correlated, which made a direct interpretation of them very difficult. The principal component analysis performed on this matrix revealed that five components (eigenvectors), each with eigenvalues greater than 1.00, accounted for 91 percent of the observed variation in climate (table 3). In descending order, the components explain 52, 18, 11, 6, and 4 percent of the observed variation among stations.

The first component is characterized by high positive coefficients for fall, winter, and spring temperatures, length of growing season, and date of first fall frost, and a high negative coefficient for latitude. The second component is characterized by high positive coefficients for mean maximum spring and summer temperatures, mean summer temperature, and total degree days, and a high negative coefficient for longitude.

The third component has high positive coefficients for precipitation during all four seasons. The fourth component is a measure of the latest spring frost, and the fifth component is a measure of the earliest fall frost.

The components were independent, and the sorting of cold-season and warm-season variables into different components demonstrated independence of conditions in the two seasons. Stations warmer in summer were not necessarily warmer in winter.

Weighted station scores, computed from the eigenvector coefficients and input variables, were plotted for the first three components (fig. 2). The distribution of stations in figure 2 shows few distinct groupings in two-dimensional space. Most stations appear grouped in one cluster. A test of possible station groupings was next performed using hierarchical grouping analysis.

Computed weighted station scores were used as input to the hierarchical grouping procedure (Powell and MacIver 1976, 1977; Veldman 1967). Raw data were also used in a separate run. Both gave similar results. The hierarchical procedure groups stations in a stepwise fashion beginning with 60 one-station groups and ending with one 60-station group. A listing of stations in each group and total within-group error are printed following each step. The increase in within-group error was then used to identify points in the process where sharp increases appeared in the within-group error.

**Table 3—Climatic variables and the first 5 eigenvalues and eigenvectors from the principal component analysis [1/]**

| Variable | | Component (eigenvector) | | | | |
|---|---|---|---|---|---|---|
| Number | Abbreviation | 1 | 2 | 3 | 4 | 5 |
| 1 | LAT | -0.731 | 0.072 | -0.005 | 0.190 | -0.446 |
| 2 | LONG | -.128 | -.829 | -.232 | -.109 | .212 |
| 3 | MATWIN | .921 | .069 | .234 | .038 | .164 |
| 4 | MATSPR | .308 | .884 | .123 | -.077 | .124 |
| 5 | MATSUM | -.259 | .930 | -.008 | -.109 | .110 |
| 6 | MATFALL | .779 | .472 | .211 | -.052 | .194 |
| 7 | MITWIN | .936 | -.034 | .222 | .202 | .060 |
| 8 | MITSPR | .861 | .238 | .137 | .364 | -.034 |
| 9 | MITSUM | .432 | .550 | .070 | .557 | -.122 |
| 10 | MITFALL | .916 | .143 | .213 | .263 | .030 |
| 11 | MTWIN | .945 | .001 | .231 | .142 | .089 |
| 12 | MTSPR | .706 | .624 | .146 | .189 | .042 |
| 13 | MTSUM | -.003 | .948 | .019 | .191 | .027 |
| 14 | MTFALL | .911 | .278 | .208 | .147 | .085 |
| 15 | PREWIN | .289 | .157 | .901 | .059 | .177 |
| 16 | PRESPR | .233 | .064 | .938 | .079 | .147 |
| 17 | PRESUM | .115 | .010 | .910 | .207 | -.097 |
| 18 | PREFALL | .242 | .201 | .918 | .124 | .096 |
| 19 | FFREPER | .705 | .084 | .146 | .632 | .103 |
| 20 | FFRFALL | .756 | .013 | .146 | .524 | .187 |
| 21 | LAFRSPR | -.098 | -.061 | -.173 | -.748 | -.058 |
| 22 | EAFRFALL | .294 | .068 | .220 | .225 | .808 |
| 23 | SHFRFRPE | .459 | .216 | .241 | .627 | .425 |
| 24 | DEGREE | .298 | .907 | .078 | .212 | .086 |
| Eigenvalues | | 8.709 | 5.268 | 3.952 | 2.527 | 1.353 |
| Percent variation accounted for | | 52.05 | 17.29 | 11.17 | 6.19 | 4.18 |
| Cumulative percent | | 52.04 | 69.33 | 80.51 | 86.70 | 90.88 |

1/ Variables contributing the most variation to each principal component are underlined.

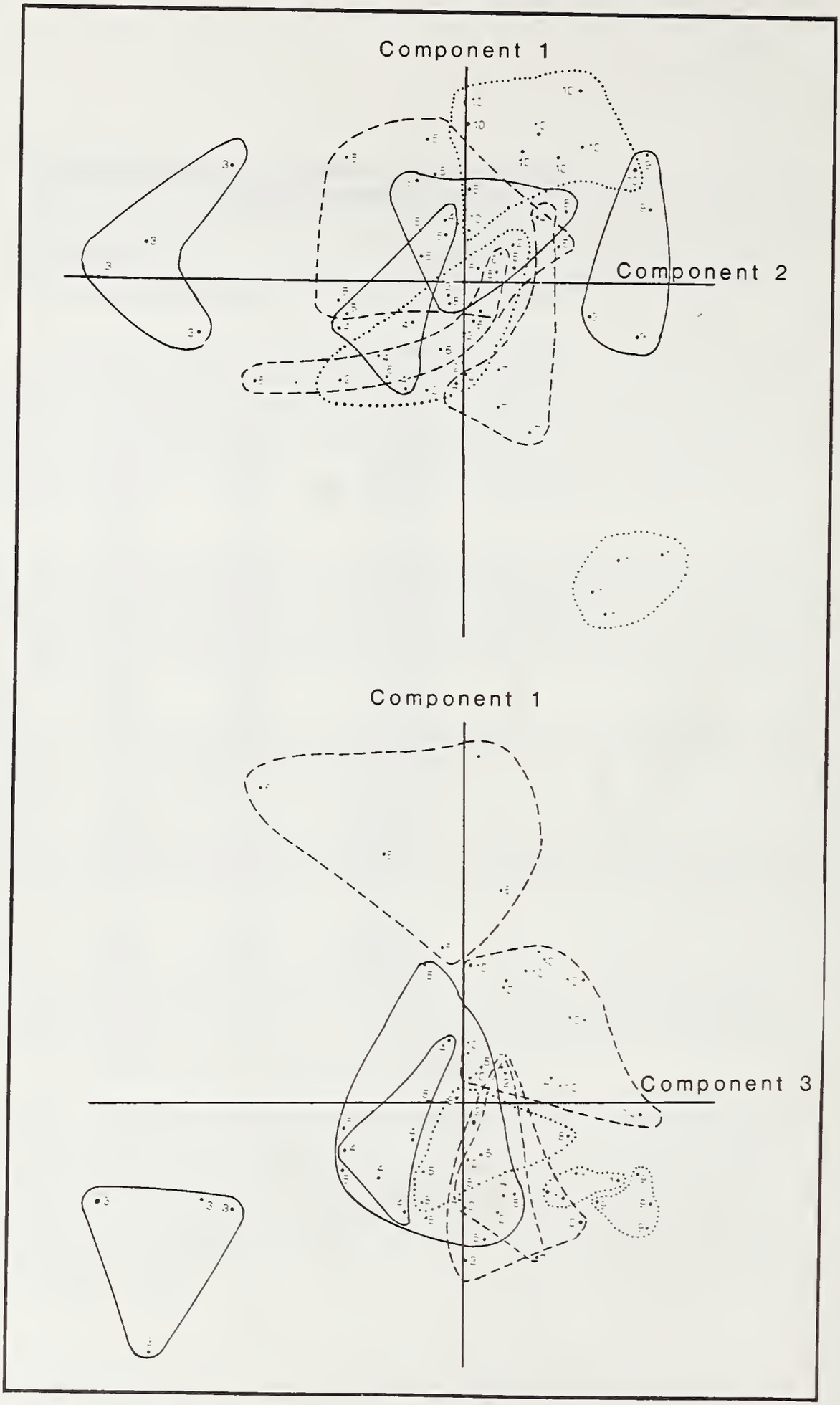


Figure 2—Weighted station scores plotted for the first three components. Groups of similar stations are indicated by group number and are encircled by lines. Stations in each group are given in table 4.

The hierarchical procedure indicated that the optimum number of groups was either 10 or 7. Ten was selected because the within-group error is more than 100 percent higher with 7 groups. The 10 groupings are delineated in figure 2 and listed in table 4.

Multiple discriminant analysis showed that the 10 groups of stations are separate and are mutually exclusive, and that individual stations were correctly placed in their respective group.

**Table 4—Climatic stations along the southern coast of Alaska by climatic group**

| Group | Station number | Station name | Group | Station number | Station name |
|---|---|---|---|---|---|
| 1 | 1 | Attu | 6 | 15 | Whittier |
| | 2 | Adak | | 16 | Latouche |
| | 3 | Atka | | 41 | Baranof |
| | 4 | Dutch Harbor | | 46 | Little Port Walter |
| | | | | 47 | Port Alexander |
| 2 | 5 | Larsen Bay | | | |
| | 6 | Uganik Bay | 7 | 17 | Cape Hinchinbrook |
| | 7 | Kodiak NAS | | 19 | Middleton Island |
| | 8 | Whale Island | | 21 | Cape St. Elias |
| | 9 | Kitoi Bay | | 35 | Cape Spencer |
| | 10 | Homer WSO | | 38 | Radioville |
| 3 | 11 | Soldotna 6 W | 8 | 26 | Haines Terminal |
| | 12 | Kenai FAA AP | | 29 | Annex Creek |
| | 13 | Anchorage WSO AP | | 45 | Wrangell |
| | 25 | Linger Longer | | | |
| | | | 9 | 40 | Five Finger Light |
| 4 | 20 | Cordova | | 49 | Lincoln Rock |
| | 22 | Yakataga FAA | | 50 | Cape Decision |
| | 23 | Yakutat WSO AP | | 53 | Guard Island |
| | 32 | Juneau 9 NW | | | |
| | 34 | Gustavus | 10 | 44 | Petersburg |
| | | | | 48 | Calder |
| 5 | 14 | Seward | | 51 | Bell Island |
| | 18 | Valdez | | 52 | Fortmann Hatchery |
| | 24 | Skagway | | 54 | Hollis |
| | 27 | Eldred Rock | | 55 | Craig |
| | 28 | Taku Pass | | 56 | Beaver Falls |
| | 30 | Juneau NO 2 | | 57 | Ketchikan |
| | 31 | Juneau WSO AP | | 58 | View Cove |
| | 33 | Point Retreat | | 59 | Annette Island |
| | 36 | Gull Cove | | 60 | Tree Point Light |
| | 37 | Tenakee | | | |
| | 39 | Angoon | | | |
| | 42 | Sitka FAA AP | | | |
| | 43 | Kake | | | |

Most groups shown in two-dimensional planes in figure 2 overlap, which suggests similarity among stations in the region. This was expected. Exceptions were group 1 (Aleutian Islands), group 3 (Cook Inlet and one station at the head of Lynn Canal in southeast Alaska), group 6 (scattered but very wet coastal stations), group 9 (four lighthouse stations in southeast Alaska), and group 10 (stations in southernmost part of southeast Alaska). Groups 1, 3, and 6 are extremes.

Stations in group 1 (1, 2, 3, and 4) are in the Aleutian Islands, an area with moderately cool temperatures in the fall, winter, and spring, and much colder summers than other coastal stations. The Aleutians are naturally treeless except where planted (Bruce and Court 1945, Lutz 1963). Faunal diversity is also limited, and the naturally occurring mammalian complex there is composed largely of rodents and marine mammals.

Three stations in group 3 (11, 12, and 13) are along Cook Inlet, and station 25 is 40 miles inland from the head of Lynn Canal. These stations are in a transition zone between the maritime climate of the coast and the dryer continental climate of the interior. They are warm in the summer and cold the rest of the year and have much less precipitation than other coastal stations. Botanical diversity is rich in these transition areas. More species of plants occur around Cook Inlet and Lynn Canal than in other geographic areas along the southern coast of Alaska. White spruce, black spruce, paper birch, aspen, and balsam poplar (typical interior species) reach the coast at Cook Inlet. Lutz spruce, a natural hybrid of white spruce and Sitka spruce, occur extensively around upper Cook Inlet and in the transition area along the Skeena River of coastal British Columbia (Daubenmire 1968). It has also been reported near the international border north of Haines (von Rudloff 1977). Paper birch, aspen, and balsam poplar also reach the coast at the head of Lynn Canal, along with interior form lodgepole pine.

Spruce beetle epidemics are chronic in stands along Cook inlet and occur regularly only in that area of the coast, but a large outbreak occurred north of Haines near the border with Canada in the 1940's, and a current outbreak is located near Gustavus in southeast Alaska. The only known spruce budworm outbreak in southern coastal Alaska occurred in Sitka spruce near Haines, Alaska, in the late 1940's and early 1950's (Downing 1975).

The stations in group 6 all have very high annual precipitation, in excess of 180 inches a year.

Station groupings (table 4) suggest that it is not practical to divide the southern coast of Alaska into distinct climatic zones because stations within the same group are sometimes located in widely separated geographic areas. The region covers a long, narrow, rugged, mountainous strip of land cut by numerous waterways that originate in much dryer areas of interior Alaska and Canada. There are relatively few climatic stations; all are located at or near sea level and have varying periods of record. Temperature and precipitation also fluctuate markedly over short distances (Andersen 1955, Farr and others 1977), and several of the stations are located on islets. Temperatures at these small islands and at other exposed lighthouse stations are greatly influenced by the surrounding water.

Although it may not be practical to delineate distinct climatic zones similar to those prepared for Provinces in Canada (Newnham 1968; Nicholson and Bryant 1972; Powell and MacIver 1976, 1977; Williams and Masterton 1983; van Groenewoud 1984), there are distinct groups of stations that can be described. Means, minimums, and maximums for variables describing these groups of stations are summarized in table 5.

## Table 5—Mean, minimum, and maximum for the 24 variables used in the analysis for each of the 10 station groups

| Group | Range of values | Latitude N. | Longitude W. | Mean maximum temp. | | | | Mean minimum temp. | | | | Mean temp. | | | | Mean precipitation | | | | Mean frost-free period | First fall frost | Latest spring frost | Earliest fall frost | Shortest frost-free period | Annual degree days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Win. | Spr. | Sum. | Fall | Win. | Spr. | Sum. | Fall | Win. | Spr. | Sum. | Fall | Win. | Spr. | Sum. | Fall | | | | | | |
| | | | | °F 1/ | | | | | | | | | | | | Inches 2/ | | | | Days 3/ | | | | | |
| 1 | Mean | 52°41' | 172°38' | 36.6 | 41.2 | 53.2 | 46.8 | 28.9 | 32.6 | 44.2 | 38.2 | 32.7 | 37.0 | 48.7 | 42.4 | 5.8 | 4.5 | 3.3 | 6.3 | 161 | 292 | 151 | 259 | 117 | 1140 |
| | Min | 51°53' | 166°32' | 34.5 | 38.6 | 51.1 | 45.7 | 28.1 | 32.0 | 43.8 | 37.6 | 31.1 | 35.5 | 47.5 | 41.5 | 4.5 | 3.6 | 2.3 | 4.5 | 158 | 284 | 140 | 225 | 100 | 979 |
| | Max | 53°53 | 176°11'E. | 37.9 | 42.5 | 56.0 | 47.4 | 30.0 | 33.6 | 44.9 | 38.5 | 33.7 | 38.1 | 50.5 | 42.9 | 6.9 | 5.4 | 4.0 | 7.7 | 165 | 300 | 166 | 284 | 139 | 1351 |
| 2 | Mean | 58°08' | 152°43' | 34.2 | 43.5 | 59.7 | 46.7 | 22.8 | 30.0 | 45.6 | 34.2 | 28.5 | 36.7 | 52.7 | 40.5 | 3.9 | 2.9 | 3.0 | 4.8 | 125 | 270 | 168 | 253 | 96 | 1566 |
| | Min | 59°32' | 151 30' | 29.2 | 42.5 | 58.1 | 44.5 | 16.7 | 27.4 | 43.9 | 30.7 | 22.9 | 35.0 | 51.6 | 37.6 | 2.0 | 1.2 | 1.5 | 2.9 | 107 | 258 | 153 | 243 | 78 | 1397 |
| | Max | 59°38' | 154°00' | 36.3 | 45.3 | 63.2 | 48.0 | 26.2 | 32.4 | 47.6 | 36.8 | 30.7 | 37.6 | 54.2 | 41.8 | 5.5 | 4.4 | 4.6 | 6.2 | 154 | 279 | 178 | 260 | 119 | 1749 |
| 3 | Mean | 60°31' | 147°09' | 23.1 | 44.0 | 63.8 | 42.6 | 6.2 | 24.7 | 45.6 | 26.4 | 14.6 | 34.4 | 54.7 | 34.5 | 1.7 | 1.1 | 1.8 | 2.6 | 111 | 256 | 156 | 240 | 88 | 1782 |
| | Min | 59°26' | 136°17' | 22.4 | 42.4 | 60.6 | 41.2 | .7 | 21.0 | 43.5 | 21.2 | 11.6 | 32.5 | 52.8 | 31.9 | .9 | .6 | 1.3 | 1.6 | 94 | 245 | 142 | 232 | 69 | 1540 |
| | Max | 61°10' | 151°15' | 24.3 | 47.0 | 67.5 | 43.7 | 10.5 | 27.4 | 49.4 | 30.1 | 17.4 | 36.8 | 56.3 | 37.0 | 3.1 | 1.9 | 2.1 | 4.9 | 135 | 266 | 161 | 249 | 115 | 2006 |
| 4 | Mean | 59°20' | 139°35' | 33.3 | 45.4 | 59.1 | 46.8 | 20.1 | 30.2 | 45.6 | 34.4 | 26.7 | 37.8 | 52.4 | 40.6 | 7.3 | 5.4 | 6.7 | 11.4 | 120 | 261 | 153 | 238 | 89 | 1583 |
| | Min | 58°24' | 134°33' | 32.5 | 43.4 | 56.6 | 46.2 | 16.9 | 28.3 | 43.5 | 32.2 | 24.8 | 36.1 | 51.0 | 39.4 | 4.4 | 2.4 | 4.1 | 7.2 | 110 | 254 | 116 | 221 | 64 | 1447 |
| | Max | 60°18' | 145°30' | 34.6 | 48.1 | 62.1 | 47.8 | 24.0 | 31.7 | 47.3 | 36.3 | 29.3 | 39.9 | 54.7 | 42.1 | 11.5 | 9.0 | 8.9 | 16.2 | 141 | 275 | 172 | 264 | 115 | 1960 |
| 5 | Mean | 58°32' | 136°50' | 32.9 | 46.9 | 62.0 | 47.4 | 23.2 | 33.2 | 47.3 | 36.5 | 28.0 | 40.0 | 54.6 | 42.0 | 5.2 | 3.6 | 3.8 | 8.3 | 153 | 281 | 149 | 252 | 119 | 1998 |
| | Min | 56°59' | 133°41' | 27.1 | 44.4 | 59.5 | 44.0 | 13.2 | 27.9 | 44.8 | 29.8 | 20.5 | 36.6 | 52.9 | 36.9 | 2.6 | 1.5 | 1.5 | 4.4 | 111 | 258 | 133 | 236 | 79 | 1611 |
| | Max | 61°07' | 149°27' | 39.3 | 50.1 | 66.4 | 50.5 | 31.1 | 36.4 | 50.5 | 41.4 | 35.2 | 42.2 | 56.6 | 46.0 | 8.9 | 6.0 | 6.4 | 13.9 | 191 | 304 | 176 | 276 | 151 | 2344 |
| 6 | Mean | 58°07' | 140°08' | 34.8 | 44.7 | 59.6 | 47.1 | 26.6 | 32.7 | 47.0 | 37.7 | 30.6 | 38.8 | 53.2 | 42.4 | 16.8 | 12.5 | 9.2 | 21.0 | 163 | 289 | 150 | 266 | 128 | 1768 |
| | Min | 56°15' | 134°39' | 30.8 | 42.0 | 58.2 | 43.2 | 21.4 | 30.1 | 46.3 | 33.1 | 26.1 | 36.1 | 51.5 | 38.2 | 14.1 | 10.0 | 4.7 | 18.2 | 144 | 275 | 140 | 252 | 118 | 1624 |
| | Max | 60°47' | 148°41' | 37.5 | 47.0 | 62.0 | 49.3 | 30.4 | 35.8 | 47.5 | 40.1 | 33.9 | 41.4 | 54.5 | 44.8 | 22.4 | 14.2 | 12.3 | 28.1 | 175 | 299 | 158 | 279 | 150 | 2058 |
| 7 | Mean | 59°04' | 142°04' | 36.2 | 44.5 | 57.3 | 48.2 | 30.0 | 35.5 | 48.4 | 40.5 | 33.4 | 40.0 | 52.8 | 44.4 | 7.8 | 6.0 | 6.7 | 11.9 | 194 | 304 | 135 | 254 | 133 | 1841 |
| | Min | 57°36' | 136°09' | 34.1 | 42.3 | 55.2 | 46.6 | 28.7 | 34.1 | 47.7 | 39.6 | 32.0 | 38.2 | 51.5 | 43.1 | 5.0 | 3.4 | 3.5 | 7.4 | 177 | 292 | 125 | 198 | 89 | 1628 |
| | Max | 60°14' | 146°39' | 38.8 | 50.6 | 61.5 | 51.7 | 31.0 | 36.9 | 49.2 | 41.3 | 34.4 | 43.6 | 54.8 | 46.4 | 8.9 | 7.0 | 8.4 | 15.2 | 212 | 316 | 157 | 278 | 166 | 2355 |
| 8 | Mean | 58°01' | 133°59' | 32.0 | 47.2 | 62.5 | 47.0 | 22.2 | 33.5 | 47.3 | 36.1 | 27.2 | 40.4 | 54.9 | 41.6 | 6.7 | 4.9 | 5.1 | 11.1 | 157 | 280 | 141 | 230 | 128 | 1978 |
| | Min | 56°28' | 132°23' | 29.2 | 45.5 | 61.4 | 45.0 | 20.7 | 32.2 | 46.5 | 35.3 | 25.1 | 39.7 | 54.0 | 40.5 | 5.2 | 3.0 | 2.0 | 6.9 | 148 | 272 | 138 | 179 | 118 | 1828 |
| | Max | 59°16' | 135°27' | 35.5 | 48.5 | 63.6 | 49.0 | 25.1 | 34.3 | 48.8 | 36.9 | 30.3 | 41.5 | 56.2 | 43.0 | 8.1 | 6.5 | 8.2 | 16.3 | 169 | 290 | 145 | 271 | 141 | 2103 |
| 9 | Mean | 56°11' | 132°58' | 39.1 | 47.3 | 59.6 | 49.6 | 31.6 | 37.6 | 49.7 | 42.0 | 35.4 | 42.4 | 54.6 | 45.8 | 6.1 | 3.9 | 3.8 | 8.0 | 192 | 303 | 161 | 242 | 120 | 2218 |
| | Min | 55°27' | 131°53' | 37.1 | 46.3 | 56.0 | 48.0 | 29.7 | 36.7 | 48.1 | 40.4 | 33.5 | 41.5 | 52.1 | 44.2 | 5.1 | 3.0 | 3.5 | 7.1 | 187 | 299 | 149 | 236 | 105 | 1888 |
| | Max | 57°16' | 134°08' | 40.1 | 48.9 | 62.6 | 50.7 | 33.4 | 38.5 | 52.1 | 43.6 | 36.7 | 43.7 | 57.4 | 47.2 | 7.1 | 4.5 | 4.1 | 8.6 | 198 | 308 | 182 | 251 | 140 | 2695 |
| 10 | Mean | 55°34' | 132°05' | 38.6 | 49.8 | 64.0 | 51.5 | 28.6 | 35.0 | 48.8 | 40.2 | 33.5 | 42.4 | 56.3 | 45.6 | 12.1 | 8.3 | 6.1 | 15.3 | 172 | 292 | 148 | 270 | 138 | 2446 |
| | Min | 54°48' | 130°56' | 34.7 | 47.6 | 61.2 | 48.3 | 24.5 | 32.1 | 45.9 | 37.0 | 29.0 | 39.9 | 53.6 | 42.7 | 9.5 | 6.4 | 3.9 | 12.4 | 126 | 270 | 133 | 251 | 106 | 1907 |
| | Max | 56°49' | 133°09' | 42.1 | 51.5 | 67.5 | 54.7 | 32.0 | 37.6 | 50.8 | 42.5 | 36.9 | 44.2 | 58.0 | 48.6 | 17.4 | 11.1 | 9.2 | 19.2 | 208 | 308 | 167 | 294 | 173 | 2725 |

1/ Per day.
2/ Per month.
3/ Days since January 1.

Stations in group 1, located in the naturally treeless Aleutian Islands, have much cooler summers and a much lower total number of degree days than do other coastal stations. They are also easily separated by their geographic location.

Group 2 includes the stations on and around Kodiak Island and those at nearby Homer on the Kenai Peninsula. These stations have warmer summers than the Aleutians but are cooler in the fall and winter.

Stations in group 3 are located around Cook Inlet and at the head of Lynn Canal in southeast Alaska in a transition zone between the moist maritime climate of the coast and the continental climate of the interior. Cold winter temperatures and relatively low precipitation throughout the year characterize these stations.

Stations in group 4 are mostly along the Gulf of Alaska, but also include Juneau 9 NW and Gustavus in the northern part of southeast Alaska. These stations have climates similar to those in group 2 except that they have significantly more precipitation throughout the year.

Group 5 includes 13 stations that cover a wide range of longitude. They form a center group of stations with values close to the mean for all variables. Although there appear to be differences between some of these stations, the differences are not sufficiently large to place them in one of the other nine groups or to form a separate group. They are warmer in spring, summer, and fall than stations in groups 1, 2, or 4.

Stations in group 6 have much more winter rainfall than do other stations. Little Port Walter located on the southern end of Baranof Island in southeast Alaska, for example, has an average monthly rainfall of 21 inches during the winter. Mean monthly precipitation during fall averages 29 inches.

Group 7 includes four northernmost lighthouse stations in southeast Alaska and Radioville on Chicagof Island. These stations have higher maximum and minimum fall temperatures and a longer frost-free period than other nearby stations because of the influence of surrounding salt water.

The three stations in group 8 are similar to those in groups 5 and 9 except that they have cooler winter temperatures.

Group 9 includes four lighthouse stations in the southernmost part of southeast Alaska. Fall and winter temperatures at these stations are moderated by the surrounding salt water; the mean date of the first fall frost is later in the year than for most other stations.

Group 10 includes 10 stations in the southern part of southeast Alaska that have relatively mild fall and winter temperatures and abundant precipitation during the winter. This group encompasses the area where outbreaks of hemlock sawfly, a major defoliator of western hemlock, commonly occur, and where the only known western hemlock looper outbreak in Alaska occurred.

Differences in climate among most groups are not great. Differences may be reflected in mean or maximum temperatures during the fall or winter, length or initiation of the frost-free period, or the abundance of precipitation. Changes are often gradual rather than abrupt.

Abrupt changes in vegetation due to abrupt changes in climate do not generally occur along the coast except in the transition zones between the maritime coast and the continental interior, or along elevational transects that could not be evaluated in this study because all stations are located at or near sea level.

An analysis of occurrence of species of plants along the southern coast of Alaska shows that species diversity is greatest in the transition zones between the maritime climate of the coast and the continental climate of the interior of Alaska (Hulten 1968) (table 6). Otherwise, species diversity decreases with increasing latitude through southeast Alaska and along the Gulf of Alaska. Western redcedar, Pacific yew, and Pacific silver fir reach the northern limit of their ranges in the southern part of southeast Alaska, although climate does not appear to limit their northern ranges. More likely these species are still expanding their ranges following Pleistocene deglaciation (Heusser 1960). Western redcedar and Pacific silver fir both reach large size at their northern limits in southeast Alaska. For example, Pacific silver fir 4 feet in diameter and 150 feet tall have been reported (Harris and Farr 1974). Salal, swordfern, and other species may also be expanding their ranges northward. Information on frequency of seed crops, seed dispersal distances, and requirements for germination for these and other species common to coastal Alaska are generally lacking.

Mountain hemlock is found at upper elevations on productive forest land in southeast Alaska and at sea level along Prince William Sound. The elevational limit of western hemlock decreases with latitude and reaches its western limit along western Prince William Sound. Sitka spruce continues to expand its range westward on Kodiak and Afognak Islands (Griggs 1934, 1946). In southeast Alaska, timberline is at 2,500 to 3,500 feet in elevation; in western Prince William Sound, timberline is at 500 to 1,000 feet.

The relative geologic youth of the region also contributes to a lack of species diversity. Southeast Alaska was covered with glaciers 10,000 years ago, and active glacier recession and isostatic rebound are still in evidence today (Heusser 1960). Species migrations into or through the region from Ice Age refugia have apparently occurred over a relatively short time.

**Table 6—Number of plant species[1/] by geographic area[2/]**

| Type of plants | Geographic area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Total |
| Trees | 12 | 8 | 15 | 9 | 11 | 14 | 5 | 0 | 22 |
| Shrubs | 56 | 53 | 82 | 36 | 56 | 75 | 55 | 36 | 107 |
| Herbs | 263 | 282 | 467 | 198 | 275 | 356 | 348 | 275 | 717 |
| Ferns | 18 | 20 | 23 | 10 | 19 | 15 | 11 | 14 | 32 |
| Grasses | 127 | 126 | 206 | 72 | 152 | 197 | 146 | 143 | 321 |
| Mosses and clubmosses | 10 | 8 | 11 | 4 | 7 | 8 | 7 | 10 | 15 |
| Total | 486 | 497 | 804 | 329 | 520 | 665 | 572 | 478 | 1214 |

1/ Summarized from Hulten 1968.

2/ Geographic areas:
1. Southeast Alaska south of Frederick Sound.
2. Southeast Alaska north of Frederick Sound to Icy Bay.
3. Lynn Canal and Icy Strait.
4. Gulf coast from Icy Bay to Prince William Sound.
5. Prince William Sound and eastern Kenai Peninsula.
6. Cook Inlet.
7. Kodiak-Afognak Islands and Alaska Peninsula.
8. Aleutian Islands.

## Conclusions

Based on an exploratory multivariate analysis of climate for 60 coastal stations along the southern coast of Alaska, it was possible to delineate 10 significantly different groups of stations based on latitude, longitude, seasonal mean and maximum temperatures, seasonal precipitation, frost-free periods, and total number of degree days. Because of the rugged, mountainous terrain, relatively few climatic stations, and varying periods of record, the entire coastal region cannot be delineated into tentative climatic zones, although three zones were obviously different from the remaining areas. The treeless Aleutian Islands (group 1), the transition zones between the coast and interior (group 3), and the very wet coastal stations (group 6) could easily be mapped as climatically distinct, but much more information is needed before a useful map of climatic zones can be delineated for the south coastal region. An independent test would also be needed to support such conclusions.

## Metric Equivalents

1 mile = 1.61 kilometers
1 foot = 0.31 meter
1 inch = 2.54 centimeters
1 °F = (9/5 °C) + 32

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## Appendix

### Common and Scientific Names

**Plants**

Quaking aspen, *Populus tremuloides* Michx.
Paper birch, *Betula papyrifera* Marsh.
Pacific silver fir, *Abies amabilis* Dougl. ex Forbes
Mountain hemlock, *Tsuga mertensiana* (Bong.) Carr.
Western hemlock, *Tsuga heterophylla* (Raf.) Sarg.
Lodgepole pine, *Pinus contorta* var. *latifolia* Engelm.
Balsam poplar, *Populus balsamifera* L.
Western redcedar, *Thuja plicata* Donn ex D. Don
Salal, *Gaultheria shallon* Pursh
Lutz spruce, *Picea* x *lutzii* Little
Black spruce, *Picea mariana* (Mill.) B.S.P.
Sitka spruce, *Picea sitchensis* (Bong.) Carr.
White spruce, *Picea glauca* (Moench) Voss
Swordfern, *Polystichum munitum* (Kaulf.) Presl
Pacific yew, *Taxus brevifolia* Nutt.

**Insects**

Spruce beetle, *Dendroctonus rufipennis* (Kirby)
Blackheaded budworm, *Acleris gloverana* (Wals.)
Spruce budworm, *Choristoneura sp.*
Western hemlock looper, *Lambdina fiscellaria lugubrosa* (Hulst)
Hemlock sawfly, *Neodiprion tsugae* Midd.

## Station Summaries

ADAK: 2

Period: 1957-71 | Mean annual degree days above 41 °F: 1,136 | Mean frost-free period: 159 days

Latitude: 51° 53' N. | Longitude: 176° 39' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 38.3 | 37.2 | 39.4 | 42.2 | 45.9 | 49.1 | 54.0 | 55.9 | 52.5 | 47.0 | 41.7 | 38.2 | 45.1 |
| Minimum | 29.4 | 28.2 | 30.6 | 33.3 | 37.0 | 40.7 | 44.5 | 46.7 | 43.7 | 38.4 | 33.0 | 30.0 | 36.3 |
| Average | 33.8 | 32.7 | 35.0 | 37.8 | 41.4 | 44.9 | 49.2 | 51.3 | 48.1 | 42.7 | 37.4 | 34.1 | 40.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.33 | 4.55 | 5.69 | 4.95 | 3.34 | 2.29 | 2.88 | 3.58 | 5.54 | 6.51 | 7.52 | 7.23 | 60.41 |

ANCHORAGE WSO AP: 13

Period: 1957-71 | Mean annual degree days above 41 °F: 2,006 | Mean frost-free period: 135 days

Latitude: 61° 10' N. | Longitude: 150° 01' W. | Elevation: 114 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 19.3 | 26.5 | 31.6 | 42.8 | 54.6 | 62.3 | 64.6 | 62.9 | 54.9 | 40.7 | 28.0 | 21.3 | 42.4 |
| Minimum | 5.2 | 11.8 | 15.4 | 28.6 | 38.1 | 47.5 | 51.0 | 49.7 | 41.0 | 27.7 | 15.6 | 8.0 | 28.3 |
| Average | 12.3 | 19.2 | 23.5 | 35.7 | 46.4 | 54.9 | 57.8 | 56.3 | 48.0 | 34.2 | 21.8 | 14.6 | 35.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | .85 | .85 | .57 | .63 | .74 | 1.07 | 2.22 | 2.08 | 2.25 | 1.34 | 1.11 | 1.08 | 14.79 |

ANGOON: 39

Period: 1942-52 | Mean annual degree days above 41 °F: 1,921 | Mean frost-free period: 165 days

Latitude: 57° 30' N. | Longitude: 134° 35' W. | Elevation: 35 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 32.4 | 34.7 | 40.0 | 45.3 | 52.3 | 58.9 | 60.8 | 60.4 | 55.8 | 47.5 | 39.1 | 34.1 | 46.8 |
| Minimum | 23.7 | 25.8 | 29.3 | 34.0 | 39.7 | 44.7 | 48.0 | 49.1 | 44.6 | 38.3 | 30.7 | 26.4 | 36.2 |
| Average | 28.0 | 30.2 | 34.6 | 39.6 | 46.0 | 51.8 | 54.4 | 54.8 | 50.2 | 42.9 | 34.9 | 30.2 | 41.6 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 3.91 | 1.85 | 2.33 | 2.19 | 1.65 | 1.40 | 3.22 | 3.31 | 5.73 | 6.77 | 4.26 | 2.28 | 38.90 |

## ANNETTE WSO AP: 59

Period: 1957-71 | Mean annual degree days above 41 °F: 2,718 | Mean frost-free period: 205 days

Latitude: 55° 02' N. | Longitude: 131° 34' W. | Elevation: 110 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 38.0 | 42.8 | 44.6 | 50.0 | 56.8 | 62.1 | 65.5 | 64.8 | 60.4 | 52.5 | 44.3 | 40.0 | 51.8 |
| Minimum | 28.7 | 32.7 | 33.4 | 37.0 | 42.3 | 48.2 | 52.1 | 52.0 | 48.3 | 42.3 | 35.4 | 31.3 | 40.3 |
| Average | 33.4 | 37.8 | 39.0 | 43.5 | 49.6 | 55.2 | 58.8 | 58.4 | 54.4 | 47.4 | 39.9 | 35.7 | 46.1 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 12.18 | 10.45 | 9.52 | 9.15 | 6.65 | 4.76 | 5.39 | 7.79 | 10.49 | 19.20 | 14.12 | 13.63 | 123.23 |

## ANNEX CREEK: 29

Period: 1937-51 | Mean annual degree days above 41 °F: 1,828 | Mean frost-free period: 155 days

Latitude: 58° 19' N. | Longitude: 134° 06' W. | Elevation: 24 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 29.5 | 29.2 | 37.9 | 44.8 | 53.9 | 61.8 | 62.3 | 60.0 | 54.2 | 45.8 | 35.0 | 28.9 | 45.3 |
| Minimum | 20.4 | 21.0 | 28.2 | 33.9 | 39.5 | 45.5 | 47.7 | 46.3 | 43.6 | 37.2 | 27.1 | 21.3 | 34.4 |
| Average | 25.0 | 25.1 | 33.1 | 39.4 | 46.7 | 53.7 | 55.0 | 53.2 | 48.9 | 41.5 | 31.1 | 25.1 | 39.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 8.70 | 6.18 | 6.53 | 6.06 | 6.76 | 5.87 | 7.76 | 11.03 | 16.47 | 19.23 | 13.32 | 9.56 | 117.47 |

## ATKA: 3

Period: 1936-49 | Mean annual degree days above 41 °F: 1,093 | Mean frost-free period: 165 days

Latitude: 52° 13' N. | Longitude: 174° 12' W. | Elevation: 36 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 37.2 | 37.9 | 38.8 | 42.1 | 45.2 | 48.8 | 52.9 | 56.8 | 52.8 | 46.5 | 41.7 | 37.0 | 44.8 |
| Minimum | 30.3 | 30.2 | 29.5 | 32.4 | 35.7 | 40.6 | 44.3 | 47.0 | 43.9 | 37.1 | 33.4 | 29.4 | 36.2 |
| Average | 33.8 | 34.1 | 34.2 | 37.3 | 40.5 | 44.7 | 48.6 | 51.9 | 48.4 | 41.8 | 37.6 | 33.2 | 40.5 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.21 | 5.29 | 4.82 | 4.19 | 4.22 | 3.03 | 4.17 | 4.49 | 7.86 | 6.42 | 8.76 | 6.22 | 64.68 |

ATTU: 1

Period: 1961-71 | Mean annual degree days above 41 °F: 979 | Mean frost-free period: 162 days

Latitude: 52° 50' N. | Longitude: 173° 11' E. | Elevation: 70 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.7 | 33.1 | 35.2 | 38.0 | 42.7 | 47.6 | 51.5 | 54.3 | 52.3 | 45.6 | 39.1 | 35.6 | 42.5 |
| Minimum | 28.6 | 26.7 | 29.0 | 31.8 | 36.4 | 40.6 | 44.5 | 46.3 | 44.0 | 37.0 | 31.9 | 29.1 | 35.5 |
| Average | 31.7 | 29.9 | 32.1 | 34.9 | 39.6 | 44.1 | 48.0 | 50.3 | 48.2 | 41.3 | 35.5 | 32.4 | 39.0 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 3.58 | 4.83 | 3.83 | 3.93 | 2.96 | 2.63 | 4.53 | 4.92 | 4.95 | 4.44 | 4.18 | 5.00 | 49.78 |

BARANOF: 41

Period: 1943-57 | Mean annual degree days above 41 °F: 1,631 | Mean frost-free period: 155 days

Latitude: 57° 05' N. | Longitude: 134° 50' W. | Elevation: 20 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 31.9 | 34.3 | 39.1 | 44.2 | 52.1 | 54.0 | 60.4 | 60.2 | 55.2 | 47.3 | 40.2 | 35.2 | 46.2 |
| Minimum | 22.5 | 24.2 | 25.6 | 30.8 | 35.8 | 43.1 | 47.6 | 48.1 | 44.6 | 37.1 | 31.8 | 27.3 | 34.9 |
| Average | 27.2 | 29.3 | 32.4 | 37.5 | 44.0 | 48.6 | 54.0 | 54.2 | 49.9 | 42.2 | 36.0 | 31.3 | 40.6 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 11.83 | 11.63 | 12.36 | 10.81 | 6.90 | 4.18 | 4.01 | 5.80 | 13.83 | 23.71 | 22.17 | 18.72 | 145.95 |

BEAVER FALLS: 56

Period: 1957-71 | Mean annual degree days above 41 °F: 2,523 | Mean frost-free period: 186 days

Latitude: 55° 23' N. | Longitude: 131° 28' W. | Elevation: 35 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 35.6 | 40.6 | 42.5 | 49.1 | 56.3 | 61.7 | 65.7 | 64.7 | 59.0 | 50.5 | 42.3 | 37.9 | 50.5 |
| Minimum | 26.2 | 30.8 | 31.5 | 35.0 | 40.8 | 47.7 | 51.7 | 51.7 | 47.8 | 40.7 | 33.8 | 29.4 | 39.0 |
| Average | 30.9 | 35.7 | 37.0 | 42.1 | 48.6 | 54.7 | 58.7 | 58.2 | 53.4 | 45.6 | 38.1 | 33.7 | 44.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 14.45 | 11.96 | 11.02 | 10.43 | 6.83 | 5.92 | 6.16 | 10.63 | 15.66 | 24.16 | 17.15 | 16.30 | 150.67 |

## BELL ISLAND: 51

Period: 1934-48 | Mean annual degree days above 41 °F: 2,567 | Mean frost-free period: 173 days

Latitude: 55° 55' N. | Longitude: 131° 35' W. | Elevation: 10 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 33.9 | 34.9 | 40.6 | 45.6 | 59.8 | 66.0 | 67.4 | 66.8 | 59.7 | 49.7 | 40.2 | 36.2 | 50.1 |
| Minimum | 26.1 | 24.7 | 28.7 | 32.6 | 38.7 | 47.1 | 50.9 | 50.2 | 46.5 | 40.3 | 32.3 | 28.4 | 37.2 |
| Average | 30.0 | 29.8 | 34.7 | 39.1 | 49.3 | 56.6 | 59.2 | 58.5 | 53.1 | 45.0 | 36.3 | 32.3 | 43.7 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 11.42 | 5.99 | 8.37 | 6.77 | 4.97 | 4.91 | 5.60 | 7.85 | 11.55 | 17.34 | 12.47 | 11.19 | 108.43 |

## CALDER: 48

Period: 1917-31 | Mean annual degree days above 41 °F: 1,907 | Mean frost-free period: 126 days

Latitude: 56° 10' N. | Longitude: 132° 27' W. | Elevation: 20 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 35.1 | 37.2 | 40.7 | 48.2 | 54.0 | 59.5 | 61.5 | 62.7 | 59.5 | 49.4 | 42.0 | 36.4 | 48.8 |
| Minimum | 26.3 | 27.2 | 27.8 | 31.5 | 36.9 | 42.8 | 46.7 | 48.2 | 42.9 | 38.4 | 32.6 | 27.9 | 35.8 |
| Average | 30.7 | 32.2 | 34.3 | 39.9 | 45.5 | 51.2 | 54.1 | 55.5 | 51.2 | 43.9 | 37.3 | 32.2 | 42.3 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 11.00 | 9.14 | 8.43 | 7.69 | 5.85 | 3.63 | 3.38 | 6.63 | 10.13 | 17.34 | 16.06 | 13.48 | 112.76 |

## CAPE DECISION: 50

Period: 1957-71 | Mean annual degree days above 41 °F: 1,888 | Mean frost-free period: 198 days

Latitude: 56° 00' N. | Longitude: 134° 08' W. | Elevation: 39 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 37.5 | 41.6 | 42.3 | 46.3 | 50.5 | 54.0 | 56.6 | 57.3 | 54.8 | 50.1 | 43.9 | 39.7 | 47.9 |
| Minimum | 29.6 | 34.3 | 34.5 | 37.3 | 41.3 | 46.2 | 49.0 | 49.7 | 47.9 | 42.5 | 36.1 | 32.4 | 40.1 |
| Average | 33.6 | 38.0 | 38.4 | 41.8 | 45.9 | 50.1 | 52.8 | 53.5 | 51.4 | 46.3 | 40.0 | 36.1 | 44.0 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 6.72 | 6.33 | 4.81 | 4.54 | 4.21 | 3.63 | 3.54 | 5.13 | 7.30 | 11.24 | 7.28 | 8.12 | 72.85 |

CAPE HINCHINBROOK: 17

Period: 1957-71

Mean annual degree days above 41 °F: 1,760

Mean frost-free period: 186 days

Latitude: 60° 14' N.

Longitude: 146° 39' W.

Elevation: 185 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 33.9 | 36.5 | 36.7 | 41.7 | 48.4 | 55.7 | 58.0 | 58.7 | 54.0 | 46.0 | 39.9 | 35.5 | 45.4 |
| Minimum | 27.5 | 29.9 | 29.0 | 33.5 | 39.9 | 46.0 | 50.3 | 51.2 | 47.0 | 38.6 | 33.2 | 28.8 | 37.9 |
| Average | 30.7 | 33.2 | 32.8 | 37.6 | 44.2 | 50.8 | 54.1 | 55.0 | 50.5 | 42.3 | 36.6 | 32.2 | 41.6 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 6.92 | 7.92 | 5.75 | 6.71 | 7.50 | 4.95 | 9.87 | 10.26 | 14.62 | 12.84 | 8.71 | 10.30 | 106.35 |

CAPE SPENCER: 35

Period: 1957-71

Mean annual degree days above 41 °F: 1,644

Mean frost-free period: 212 days

Latitude: 58° 12' N.

Longitude: 136° 38' W.

Elevation: 81 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 34.1 | 37.2 | 38.3 | 43.9 | 49.0 | 52.9 | 55.8 | 56.8 | 53.0 | 46.8 | 40.2 | 36.5 | 45.4 |
| Minimum | 28.8 | 32.4 | 32.5 | 36.8 | 41.3 | 46.0 | 48.3 | 48.8 | 46.4 | 41.2 | 35.0 | 31.0 | 39.0 |
| Average | 31.5 | 34.8 | 35.4 | 40.4 | 45.2 | 49.5 | 52.1 | 52.8 | 49.7 | 44.0 | 37.6 | 33.8 | 42.2 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 6.61 | 7.06 | 6.89 | 6.03 | 6.80 | 4.35 | 7.21 | 8.53 | 13.47 | 14.03 | 11.16 | 9.72 | 101.86 |

CAPE ST. ELIAS: 21

Period: 1957-71

Mean annual degree days above 41 °F: 1,800

Mean frost-free period: 177 days

Latitude: 59° 48' N.

Longitude: 144° 36' W.

Elevation: 58 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 34.9 | 37.7 | 38.2 | 43.3 | 48.7 | 54.3 | 57.7 | 58.6 | 55.3 | 47.9 | 40.7 | 36.6 | 46.2 |
| Minimum | 28.0 | 31.2 | 30.0 | 34.7 | 40.3 | 46.4 | 50.0 | 50.8 | 46.9 | 39.0 | 33.3 | 29.8 | 38.4 |
| Average | 31.4 | 34.4 | 34.1 | 39.0 | 44.5 | 50.4 | 53.9 | 54.7 | 51.1 | 43.5 | 37.0 | 33.2 | 42.3 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 7.52 | 7.67 | 7.11 | 6.88 | 6.91 | 4.41 | 9.32 | 8.62 | 13.24 | 12.86 | 9.49 | 11.29 | 105.32 |

CORDOVA FAA AP: 20

Period: 1957-71

Mean annual degree days above 41 °F: 1,600

Mean frost-free period: 110 days

Latitude: 60° 30' N.

Longitude: 145° 30' W.

Elevation: 41 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 29.9 | 35.5 | 37.0 | 44.2 | 52.0 | 58.4 | 60.6 | 61.2 | 55.9 | 46.6 | 37.5 | 32.0 | 45.9 |
| Minimum | 13.2 | 20.1 | 20.3 | 28.8 | 35.7 | 43.3 | 46.8 | 45.5 | 40.3 | 32.0 | 24.2 | 17.5 | 30.6 |
| Average | 21.6 | 27.8 | 28.7 | 36.5 | 43.9 | 50.9 | 53.7 | 53.4 | 48.1 | 39.3 | 30.9 | 24.8 | 38.2 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 4.71 | 6.89 | 5.69 | 5.63 | 6.49 | 5.22 | 7.48 | 9.03 | 12.46 | 11.56 | 7.36 | 7.44 | 89.96 |

CRAIG: 55

Period: 1938-52

Mean annual degree days above 41 °F: 2,341

Mean frost-free period: 177 days

Latitude: 55° 29' N.

Longitude: 133° 09' W.

Elevation: 13 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 39.5 | 40.9 | 44.0 | 49.0 | 55.9 | 59.7 | 62.7 | 63.4 | 59.5 | 51.5 | 44.4 | 40.5 | 50.9 |
| Minimum | 29.5 | 30.2 | 31.2 | 35.2 | 40.2 | 45.4 | 50.4 | 50.0 | 47.0 | 41.1 | 34.8 | 31.4 | 38.9 |
| Average | 34.5 | 35.6 | 37.6 | 42.1 | 48.1 | 52.6 | 56.6 | 56.7 | 53.3 | 46.3 | 39.6 | 36.0 | 44.9 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 12.16 | 7.69 | 8.58 | 8.80 | 5.22 | 3.73 | 4.48 | 5.75 | 9.47 | 14.62 | 13.49 | 11.98 | 105.97 |

OUTCH HARBOR: 4

Period: 1930-34

Mean annual degree days above 41 °F: 1,351

Mean frost-free period: 158 days

Latitude: 53° 55' N.

Longitude: 166° 30' W.

Elevation: 47 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 36.3 | 36.7 | 37.8 | 41.6 | 46.2 | 51.2 | 56.9 | 60.0 | 54.0 | 46.6 | 41.4 | 36.9 | 45.5 |
| Minimum | 28.1 | 28.1 | 28.7 | 31.5 | 35.9 | 41.1 | 45.4 | 48.1 | 44.5 | 38.2 | 32.7 | 28.8 | 35.9 |
| Average | 32.2 | 32.4 | 33.3 | 36.6 | 41.1 | 46.2 | 51.2 | 54.1 | 49.3 | 42.4 | 37.1 | 32.9 | 40.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.97 | 7.01 | 4.58 | 4.40 | 4.35 | 2.81 | 1.60 | 2.45 | 6.16 | 7.13 | 6.01 | 6.72 | 60.19 |

ELOREO ROCK: 27

Period: 1957-71 | Mean annual degree days above 41 °F: 2,034 | Mean frost-free period: 184 days

Latitude: 58° 58' N. | Longitude: 135° 13' W. | Elevation: 55 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 29.2 | 35.2 | 36.5 | 44.6 | 52.1 | 59.5 | 61.4 | 60.7 | 54.6 | 46.4 | 37.6 | 32.7 | 45.9 |
| Minimum | 22.3 | 27.0 | 28.4 | 35.7 | 41.6 | 49.0 | 51.7 | 50.8 | 45.2 | 37.1 | 29.4 | 25.0 | 36.9 |
| Average | 25.8 | 31.1 | 32.5 | 40.2 | 46.9 | 54.3 | 56.6 | 55.8 | 49.9 | 41.8 | 33.5 | 28.9 | 41.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 4.15 | 4.75 | 2.70 | 1.93 | 2.52 | 1.76 | 2.61 | 3.36 | 6.75 | 7.99 | 5.63 | 4.57 | 48.72 |

FIVE FINGER LIGHT STATION: 40

Period: 1957-71 | Mean annual degree days above 41 °F: 1,901 | Mean frost-free period: 187 days

Latitude: 57° 16' N. | Longitude: 133° 37' W. | Elevation: 30 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.7 | 39.0 | 40.3 | 46.3 | 52.3 | 57.5 | 59.0 | 58.8 | 54.0 | 48.3 | 41.6 | 37.6 | 47.4 |
| Minimum | 27.4 | 31.3 | 32.8 | 36.3 | 40.7 | 46.7 | 49.6 | 47.9 | 45.8 | 40.8 | 34.5 | 30.5 | 38.7 |
| Average | 31.1 | 35.2 | 36.6 | 41.3 | 46.5 | 52.1 | 54.3 | 53.4 | 49.9 | 44.6 | 38.1 | 34.1 | 43.1 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 4.78 | 4.42 | 2.97 | 3.21 | 2.69 | 2.70 | 3.78 | 5.57 | 6.07 | 8.76 | 6.43 | 6.13 | 57.51 |

FORTMAN HATCHERY: 52

Period: 1912-26 | Mean annual degree days above 41 °F: 2,572 | Mean frost-free period: 150 days

Latitude: 55° 36' N. | Longitude: 131° 25' W. | Elevation: 132 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.4 | 38.9 | 43.8 | 51.0 | 59.3 | 66.1 | 68.3 | 68.2 | 61.6 | 52.1 | 43.4 | 36.3 | 52.0 |
| Minimum | 23.7 | 24.3 | 27.6 | 32.6 | 37.9 | 44.8 | 49.2 | 49.9 | 44.6 | 39.6 | 33.0 | 26.6 | 36.2 |
| Average | 29.1 | 31.6 | 35.7 | 41.8 | 48.6 | 55.5 | 58.8 | 59.1 | 53.1 | 45.9 | 38.2 | 31.5 | 44.1 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 12.16 | 12.61 | 11.75 | 11.24 | 8.37 | 5.31 | 6.88 | 8.59 | 12.03 | 19.20 | 20.67 | 16.39 | 145.20 |

GUARD ISLAND: 53

Period: 1957-68 | Mean annual degree days above 41 °F: 2,695 | Mean frost-free period: 187 days

Latitude: 55° 27' N. | Longitude: 131° 53' W. | Elevation: 20 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 38.6 | 41.5 | 42.7 | 48.7 | 55.3 | 59.9 | 64.2 | 63.8 | 58.5 | 50.6 | 43.1 | 40.3 | 50.6 |
| Minimum | 31.6 | 34.0 | 34.4 | 38.0 | 43.0 | 49.1 | 53.3 | 54.0 | 50.2 | 44.1 | 36.6 | 34.7 | 42.0 |
| Average | 35.1 | 37.8 | 38.6 | 43.4 | 49.2 | 54.5 | 58.8 | 58.9 | 54.4 | 47.4 | 39.9 | 37.5 | 46.3 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 5.43 | 5.00 | 4.59 | 3.78 | 3.80 | 3.40 | 3.53 | 4.52 | 6.08 | 10.81 | 6.61 | 6.12 | 63.67 |

GULL COVE: 36

Period: 1941-52 | Mean annual degree days above 41 °F: 1,721 | Mean frost-free period: 158 days

Latitude: 58° 12' N. | Longitude: 136° 09' W. | Elevation: 18 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 34.1 | 35.9 | 39.3 | 45.0 | 53.5 | 58.4 | 60.1 | 59.9 | 55.0 | 47.4 | 39.0 | 34.8 | 46.9 |
| Minimum | 24.2 | 25.9 | 28.9 | 32.9 | 38.2 | 44.1 | 47.2 | 47.2 | 43.9 | 37.3 | 30.2 | 25.5 | 35.4 |
| Average | 29.2 | 30.9 | 34.1 | 39.0 | 45.8 | 51.3 | 53.7 | 53.6 | 49.5 | 42.4 | 34.6 | 30.2 | 41.1 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 11.16 | 6.07 | 8.79 | 5.46 | 3.78 | 2.86 | 5.17 | 5.09 | 11.40 | 17.32 | 12.88 | 9.57 | 99.55 |

GUSTAVUS: 34

Period: 1956-68 | Mean annual degree days above 41 °F: 1,872 | Mean frost-free period: 114 days

Latitude: 58° 25' N. | Longitude: 135° 44' W. | Elevation: 17 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 31.6 | 36.0 | 39.0 | 47.6 | 55.0 | 60.4 | 63.0 | 63.0 | 56.9 | 47.7 | 38.9 | 33.6 | 47.7 |
| Minimum | 19.6 | 23.5 | 25.6 | 31.6 | 37.8 | 45.0 | 48.8 | 48.1 | 43.1 | 37.1 | 28.8 | 23.7 | 34.4 |
| Average | 25.6 | 29.8 | 32.3 | 39.6 | 46.4 | 52.7 | 55.9 | 55.6 | 50.0 | 42.4 | 33.9 | 28.7 | 41.1 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 3.71 | 3.44 | 2.33 | 2.14 | 2.80 | 2.58 | 4.20 | 5.56 | 6.84 | 8.32 | 6.30 | 5.96 | 54.18 |

HAINES TERMINAL: 26

Period: 1957-71 | Mean annual degree days above 41 °F: 2,103 | Mean frost-free period: 148 days

Latitude: 59° 16' N. | Longitude: 135° 27' W. | Elevation: 175 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 26.9 | 35.2 | 37.8 | 48.4 | 56.5 | 63.8 | 64.3 | 62.8 | 56.8 | 47.1 | 37.1 | 31.9 | 47.4 |
| Minimum | 16.0 | 24.3 | 25.3 | 32.1 | 39.2 | 47.1 | 50.4 | 48.8 | 43.7 | 35.7 | 26.6 | 21.8 | 34.2 |
| Average | 21.5 | 29.8 | 31.6 | 40.3 | 47.8 | 55.5 | 57.4 | 55.8 | 50.3 | 41.4 | 31.9 | 26.9 | 40.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 4.56 | 4.40 | 4.43 | 2.34 | 2.29 | 1.33 | 1.79 | 2.75 | 6.17 | 8.60 | 5.96 | 6.68 | 51.30 |

HOLLIS: 54

Period: 1954-62 | Mean annual degree days above 41 °F: 2,352 | Mean frost-free period: 149 days

Latitude: 55° 28' N. | Longitude: 132° 40' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 36.5 | 38.0 | 42.1 | 48.3 | 57.5 | 61.9 | 66.8 | 65.5 | 59.3 | 49.6 | 42.1 | 37.6 | 50.4 |
| Minimum | 27.4 | 28.0 | 29.8 | 33.0 | 39.5 | 45.7 | 49.9 | 50.1 | 44.6 | 39.4 | 33.6 | 30.0 | 37.6 |
| Average | 31.9 | 33.0 | 36.0 | 40.7 | 48.5 | 53.8 | 58.4 | 57.8 | 52.0 | 44.5 | 37.9 | 33.8 | 44.0 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 8.68 | 8.81 | 7.25 | 7.59 | 4.54 | 3.64 | 3.11 | 4.98 | 7.44 | 17.90 | 13.69 | 12.62 | 100.25 |

HOMER WSO: 10

Period: 1957-71 | Mean annual degree days above 41 °F: 1,397 | Mean frost-free period: 108 days

Latitude: 59° 38' N. | Longitude: 151° 30' W. | Elevation: 67 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 27.2 | 32.3 | 34.8 | 42.2 | 50.5 | 56.7 | 60.1 | 60.0 | 54.7 | 43.9 | 34.8 | 28.2 | 43.8 |
| Minimum | 14.7 | 18.9 | 19.6 | 28.4 | 34.2 | 41.3 | 45.3 | 45.1 | 39.4 | 29.9 | 22.7 | 16.4 | 29.6 |
| Average | 21.0 | 25.6 | 27.2 | 35.3 | 42.4 | 49.0 | 52.8 | 52.6 | 47.1 | 36.9 | 28.8 | 22.3 | 36.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 1.38 | 1.98 | 1.30 | 1.21 | 1.10 | .95 | 1.87 | 2.30 | 2.87 | 3.18 | 2.56 | 2.66 | 23.36 |

JUNEAU WSO AP: 31

Period: 1957-71 | Mean annual degree days above 41 °F: 1,845 | Mean frost-free period: 131 days

Latitude: 58° 22' N. | Longitude: 134° 35' W. | Elevation: 12 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 27.7 | 35.0 | 37.9 | 46.9 | 55.0 | 61.6 | 63.4 | 62.0 | 55.6 | 47.2 | 37.1 | 32.0 | 46.8 |
| Minimum | 16.1 | 22.7 | 25.4 | 31.0 | 37.7 | 44.2 | 47.2 | 46.3 | 42.2 | 36.0 | 27.1 | 22.3 | 33.2 |
| Average | 21.9 | 28.9 | 31.7 | 39.0 | 46.4 | 52.9 | 55.3 | 54.2 | 48.9 | 41.6 | 32.1 | 27.2 | 40.0 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 4.00 | 3.86 | 3.50 | 2.91 | 3.51 | 2.77 | 4.76 | 5.22 | 6.79 | 6.78 | 5.05 | 4.70 | 53.85 |

JUNEAU NO. 2: 30

Period: 1957-71 | Mean annual degree days above 41 °F: 2,344 | Mean frost-free period: 167 days

Latitude: 58° 18' N. | Longitude: 134° 24' W. | Elevation: 25 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 30.8 | 37.6 | 40.1 | 48.9 | 57.1 | 64.0 | 65.0 | 63.9 | 57.0 | 48.7 | 39.2 | 36.2 | 49.0 |
| Minimum | 21.5 | 27.6 | 29.2 | 34.4 | 41.1 | 46.8 | 50.2 | 49.5 | 45.8 | 39.0 | 30.5 | 27.0 | 36.9 |
| Average | 26.2 | 32.6 | 34.7 | 41.7 | 49.1 | 55.4 | 57.6 | 56.7 | 51.4 | 43.9 | 34.9 | 31.6 | 43.0 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.49 | 6.82 | 6.07 | 5.90 | 6.00 | 3.79 | 7.27 | 8.18 | 11.47 | 12.69 | 9.64 | 8.30 | 92.62 |

JUNEAU 9 NW (MENDENHALL): 32

Period: 1939-43 & 1966-70 | Mean annual degree days above 41 °F: 1,454 | Mean frost-free period: 125 days

Latitude: 58° 25' N. | Longitude: 134° 32' W. | Elevation: 120 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 28.0 | 37.1 | 41.2 | 48.8 | 54.4 | 59.0 | 58.7 | 57.7 | 54.1 | 47.1 | 37.4 | 33.2 | 46.4 |
| Minimum | 10.3 | 21.1 | 25.8 | 31.9 | 37.2 | 42.4 | 44.7 | 43.3 | 40.3 | 36.1 | 26.7 | 23.4 | 31.9 |
| Average | 19.2 | 29.1 | 33.5 | 40.4 | 45.8 | 50.7 | 51.7 | 50.5 | 47.2 | 41.6 | 32.0 | 28.3 | 39.2 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.23 | 4.67 | 4.55 | 4.05 | 5.16 | 4.51 | 7.08 | 9.33 | 12.63 | 11.50 | 7.46 | 6.26 | 83.43 |

KAKE: 43

Period: 1920-23 & 1930-34 | Mean annual degree days above 41 °F: 1,826 | Mean frost-free period: 151 days

Latitude: 56° 59' N. | Longitude: 133° 57' W. | Elevation: 8 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.8 | 37.2 | 39.9 | 46.6 | 52.3 | 59.2 | 60.6 | 62.1 | 56.1 | 49.2 | 43.4 | 37.0 | 48.2 |
| Minimum | 25.8 | 26.8 | 28.8 | 33.1 | 38.0 | 44.1 | 46.4 | 48.6 | 43.4 | 37.4 | 32.1 | 27.2 | 36.0 |
| Average | 30.3 | 32.0 | 34.4 | 39.9 | 45.2 | 51.7 | 53.5 | 55.4 | 49.8 | 43.3 | 37.8 | 32.1 | 42.1 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.19 | 5.33 | 2.99 | 3.86 | 3.04 | 2.16 | 2.51 | 4.35 | 5.20 | 7.30 | 6.69 | 5.55 | 54.17 |

KENAI FAA MUNICIPAL AP: 12

Period: 1957-71 | Mean annual degree days above 41 °F: 1,540 | Mean frost-free period: 107 days

Latitude: 60° 34' N. | Longitude: 151° 15' W. | Elevation: 86 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 20.0 | 28.2 | 32.4 | 42.3 | 52.5 | 58.6 | 61.5 | 61.7 | 55.8 | 42.9 | 30.0 | 21.4 | 42.3 |
| Minimum | 1.7 | 8.9 | 11.0 | 25.7 | 34.4 | 42.3 | 46.8 | 45.4 | 38.8 | 26.3 | 13.4 | 5.0 | 25.0 |
| Average | 10.9 | 18.6 | 21.7 | 34.0 | 43.5 | 50.5 | 54.2 | 53.6 | 47.3 | 34.6 | 21.7 | 13.2 | 33.6 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 1.07 | 1.06 | 1.04 | .96 | 1.08 | 1.18 | 2.24 | 2.87 | 3.13 | 2.27 | 1.45 | 1.60 | 19.95 |

KETCHIKAN: 57

Period: 1957-71 | Mean annual degree days above 41 °F: 2,739 | Mean frost-free period: 182 days

Latitude: 55° 21' N. | Longitude: 131° 39' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 40.0 | 44.5 | 45.5 | 51.0 | 58.0 | 63.0 | 66.3 | 65.9 | 61.0 | 53.3 | 45.9 | 41.7 | 53.0 |
| Minimum | 27.7 | 32.2 | 32.6 | 35.6 | 40.6 | 46.8 | 50.8 | 50.8 | 47.2 | 40.7 | 34.4 | 30.8 | 39.2 |
| Average | 33.9 | 38.4 | 39.1 | 43.3 | 49.3 | 54.9 | 58.6 | 58.4 | 54.1 | 47.0 | 40.2 | 36.3 | 46.1 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 15.20 | 13.36 | 11.50 | 12.62 | 8.73 | 6.94 | 8.15 | 12.43 | 14.37 | 25.53 | 17.67 | 16.67 | 163.17 |

KITOI BAY: 9

Period: 1957-71 | Mean annual degree days above 41 °F: 1,478 | Mean frost-free period: 127 days

Latitude: 58° 11' N. | Longitude: 152° 21' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 33.0 | 35.7 | 37.2 | 42.8 | 50.0 | 54.7 | 59.5 | 60.5 | 54.4 | 44.7 | 37.7 | 33.1 | 45.3 |
| Minimum | 23.0 | 24.5 | 23.8 | 29.4 | 35.8 | 42.3 | 47.1 | 47.5 | 42.6 | 32.9 | 27.8 | 22.3 | 33.3 |
| Average | 28.0 | 30.1 | 30.5 | 36.1 | 42.9 | 48.5 | 53.3 | 54.0 | 48.5 | 38.8 | 32.7 | 27.7 | 39.3 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.52 | 4.91 | 4.34 | 4.10 | 4.52 | 3.76 | 3.85 | 5.55 | 6.59 | 6.41 | 5.60 | 6.21 | 61.36 |

KODIAK NAS: 7

Period: 1957-71 | Mean annual degree days above 41 °F: 1,636 | Mean frost-free period: 154 days

Latitude: 57° 45' N. | Longitude: 152° 31' W. | Elevation: 21 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.6 | 36.4 | 36.8 | 42.3 | 49.2 | 54.9 | 59.5 | 60.0 | 55.2 | 45.4 | 39.2 | 34.2 | 45.6 |
| Minimum | 26.3 | 27.0 | 26.5 | 31.8 | 38.8 | 44.8 | 48.9 | 49.1 | 44.9 | 35.1 | 30.5 | 25.3 | 35.8 |
| Average | 30.5 | 31.7 | 31.7 | 37.1 | 44.0 | 49.9 | 54.2 | 54.6 | 50.1 | 40.3 | 34.9 | 29.8 | 40.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.21 | 5.26 | 3.91 | 3.26 | 2.96 | 4.75 | 3.86 | 5.12 | 6.65 | 5.45 | 5.42 | 5.86 | 57.71 |

LARSEN BAY: 5

Period: 1957-65 | Mean annual degree days above 41 °F: 1,638 | Mean frost-free period: 135 days

Latitude: 57° 32' N. | Longitude: 154° 00' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 36.6 | 37.6 | 38.9 | 44.1 | 49.7 | 60.2 | 61.2 | 61.4 | 57.7 | 46.1 | 39.6 | 34.6 | 47.3 |
| Minimum | 24.4 | 23.9 | 25.4 | 29.1 | 34.7 | 42.9 | 46.8 | 47.1 | 42.7 | 33.4 | 28.1 | 22.4 | 33.4 |
| Average | 30.5 | 30.8 | 32.1 | 36.6 | 42.2 | 51.5 | 54.0 | 54.3 | 50.2 | 39.8 | 33.9 | 28.5 | 40.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 2.03 | 1.58 | 1.41 | 1.32 | .84 | .76 | 1.46 | 2.15 | 2.92 | 2.61 | 3.37 | 2.48 | 22.93 |

LATOUCHE: 16

Period: 1940-55 | Mean annual degree days above 41 °F: 1,640 | Mean frost-free period: 167 days

Latitude: 60° 03' N. | Longitude: 147° 54' W. | Elevation: 45 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 33.5 | 35.8 | 37.9 | 42.2 | 48.8 | 55.5 | 61.0 | 60.5 | 55.1 | 46.2 | 38.6 | 34.1 | 45.8 |
| Minimum | 26.1 | 27.2 | 27.6 | 31.2 | 37.0 | 43.5 | 48.1 | 49.1 | 44.4 | 37.0 | 31.4 | 27.0 | 35.8 |
| Average | 29.8 | 31.5 | 32.8 | 36.7 | 42.9 | 49.5 | 54.6 | 54.8 | 49.8 | 41.6 | 35.0 | 30.6 | 40.8 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 16.53 | 14.23 | 14.15 | 14.99 | 11.40 | 6.88 | 6.19 | 11.42 | 17.78 | 23.36 | 16.94 | 16.75 | 170.62 |

LINCOLN ROCK: 49

Period: 1953-67 | Mean annual degree days above 41 °F: 2,390 | Mean frost-free period: 194 days

Latitude: 56° 03' N. | Longitude: 132° 46' W. | Elevation: 25 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 38.3 | 40.8 | 41.9 | 47.6 | 53.5 | 58.7 | 62.6 | 62.3 | 57.2 | 50.0 | 43.6 | 40.0 | 49.7 |
| Minimum | 29.6 | 32.1 | 32.7 | 36.9 | 42.6 | 47.2 | 51.0 | 52.1 | 48.3 | 42.0 | 35.7 | 32.2 | 40.2 |
| Average | 34.0 | 36.5 | 37.3 | 42.3 | 48.1 | 53.0 | 56.8 | 57.2 | 52.8 | 46.0 | 39.6 | 36.1 | 44.9 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 5.44 | 6.00 | 4.50 | 3.74 | 3.38 | 2.94 | 3.19 | 4.50 | 6.55 | 10.42 | 7.90 | 8.67 | 67.23 |

LINGER LONGER: 25

Period: 1960-71 | Mean annual degree days above 41 °F: 1,989 | Mean frost-free period: 107 days

Latitude: 59° 26' N. | Longitude: 136° 17' W. | Elevation: 700 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 20.6 | 30.9 | 36.1 | 46.5 | 58.3 | 66.7 | 69.2 | 66.5 | 57.0 | 44.4 | 29.8 | 21.5 | 45.6 |
| Minimum | 6.4 | 16.0 | 18.7 | 27.7 | 33.7 | 42.1 | 46.8 | 45.1 | 40.3 | 31.7 | 18.4 | 9.1 | 28.0 |
| Average | 13.5 | 23.5 | 27.4 | 37.1 | 46.0 | 54.4 | 58.0 | 55.8 | 48.7 | 38.1 | 24.1 | 15.3 | 36.8 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 2.74 | 4.05 | 2.24 | 1.56 | 1.96 | .78 | 1.20 | 1.97 | 4.66 | 6.26 | 3.78 | 2.64 | 33.84 |

LITTLE PORT WALTER: 46

Period: 1957-71 | Mean annual degree days above 41 °F: 1,888 | Mean frost-free period: 172 days

Latitude: 56° 23' N. | Longitude: 134° 39' W. | Elevation: 14 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 35.0 | 39.4 | 40.9 | 45.9 | 51.9 | 57.0 | 60.7 | 60.2 | 55.7 | 48.7 | 41.6 | 37.6 | 47.9 |
| Minimum | 27.3 | 31.2 | 31.6 | 34.0 | 39.1 | 44.9 | 48.9 | 48.6 | 45.7 | 40.0 | 34.0 | 30.2 | 38.0 |
| Average | 31.2 | 35.3 | 36.2 | 40.0 | 45.5 | 51.0 | 54.8 | 54.4 | 50.7 | 44.4 | 37.8 | 33.9 | 43.0 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 19.75 | 20.48 | 15.92 | 14.61 | 12.55 | 8.47 | 9.43 | 14.77 | 24.46 | 33.45 | 26.26 | 26.94 | 227.09 |

MIDDLETON ISLAND: 19

Period: 1943-58 | Mean annual degree days above 41 °F: 1,628 | Mean frost-free period: 204 days

Latitude: 59° 28' N. | Longitude: 146° 19' W. | Elevation: 39 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 36.5 | 36.6 | 38.1 | 42.6 | 46.6 | 51.9 | 56.4 | 58.0 | 54.4 | 47.5 | 42.0 | 37.8 | 45.7 |
| Minimum | 30.7 | 30.6 | 31.4 | 34.4 | 39.1 | 44.2 | 48.7 | 50.3 | 47.2 | 40.8 | 36.0 | 31.7 | 38.8 |
| Average | 33.6 | 33.6 | 34.8 | 38.5 | 42.9 | 48.1 | 52.6 | 54.2 | 50.8 | 44.2 | 39.0 | 34.8 | 42.2 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 5.32 | 3.94 | 3.35 | 3.27 | 3.62 | 2.23 | 3.45 | 4.81 | 7.13 | 8.18 | 6.93 | 5.78 | 58.01 |

PETERSBURG: 44

Period: 1957-71 | Mean annual degree days above 41 °F: 2,005 | Mean frost-free period: 140 days

Latitude: 56° 49' N. | Longitude: 132° 57' W. | Elevation: 50 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 31.4 | 37.9 | 41.0 | 48.5 | 55.8 | 61.5 | 63.7 | 62.7 | 56.8 | 48.8 | 39.3 | 34.8 | 48.5 |
| Minimum | 21.3 | 26.4 | 28.2 | 32.4 | 38.1 | 44.6 | 47.7 | 46.7 | 43.4 | 38.0 | 29.6 | 25.7 | 35.2 |
| Average | 26.4 | 32.2 | 34.6 | 40.5 | 47.0 | 53.1 | 55.7 | 54.7 | 50.1 | 43.4 | 34.5 | 30.3 | 41.9 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 9.33 | 7.96 | 6.56 | 7.37 | 5.85 | 5.15 | 5.68 | 7.26 | 11.52 | 16.99 | 11.03 | 11.70 | 106.40 |

POINT RETREAT LIGHT STATION: 33

Period: 1957-71 | Mean annual degree days above 41 °F: 2,110 | Mean frost-free period: 173 days

Latitude: 58° 25' N. | Longitude: 134° 57' W. | Elevation: 20 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 31.5 | 36.3 | 38.4 | 46.2 | 53.4 | 60.7 | 62.7 | 61.8 | 55.3 | 47.3 | 39.0 | 34.9 | 47.3 |
| Minimum | 23.4 | 28.4 | 29.9 | 35.0 | 40.6 | 46.2 | 50.8 | 50.4 | 46.5 | 39.2 | 31.1 | 27.5 | 37.5 |
| Average | 27.5 | 32.4 | 34.2 | 40.6 | 47.0 | 53.5 | 56.8 | 56.1 | 50.9 | 43.3 | 35.1 | 31.2 | 42.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.08 | 5.07 | 3.92 | 4.36 | 4.12 | 2.72 | 5.79 | 6.18 | 9.82 | 10.03 | 7.07 | 6.25 | 70.41 |

PORT ALEXANDER: 47

Period: 1950-61 | Mean annual degree days above 41 °F: 2,058 | Mean frost-free period: 175 days

Latitude: 56° 15' N. | Longitude: 134° 39' W. | Elevation: 18 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 35.4 | 38.1 | 40.6 | 46.9 | 53.5 | 59.9 | 63.8 | 62.4 | 56.9 | 48.7 | 42.4 | 38.9 | 49.0 |
| Minimum | 28.2 | 30.8 | 31.7 | 35.5 | 40.3 | 44.6 | 47.9 | 48.2 | 44.9 | 40.2 | 35.3 | 32.1 | 38.3 |
| Average | 31.8 | 34.5 | 36.2 | 41.2 | 46.9 | 52.3 | 55.9 | 55.3 | 50.9 | 44.5 | 38.9 | 35.5 | 43.6 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 14.62 | 14.82 | 12.81 | 10.71 | 9.35 | 6.91 | 9.38 | 13.72 | 15.81 | 22.63 | 19.05 | 19.52 | 169.33 |

RAOIOVILLE : 38

Period: 1936-50 | Mean annual degree days above 41 °F: 2,355 | Mean frost-free period: 192 days

Latitude: 57° 36' N. | Longitude: 136° 09' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 39.0 | 38.5 | 45.2 | 50.7 | 55.9 | 60.4 | 62.7 | 61.5 | 59.6 | 51.6 | 43.8 | 38.8 | 50.6 |
| Minimum | 30.0 | 28.6 | 32.6 | 36.5 | 40.8 | 45.7 | 49.4 | 49.1 | 47.0 | 41.2 | 35.0 | 30.7 | 38.9 |
| Average | 34.5 | 33.6 | 38.9 | 43.6 | 48.4 | 53.1 | 56.1 | 55.3 | 53.3 | 46.4 | 39.4 | 34.8 | 44.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 10.17 | 5.81 | 7.68 | 5.76 | 5.28 | 4.58 | 8.17 | 9.02 | 14.03 | 17.33 | 14.25 | 10.71 | 112.79 |

SEWARD: 14

Period: 1957-71 | Mean annual degree days above 41 °F: 1,847 | Mean frost-free period: 152 days

Latitude: 60° 07' N. | Longitude: 149° 27' W. | Elevation: 70 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 28.9 | 34.0 | 36.5 | 45.1 | 53.0 | 59.5 | 62.5 | 62.5 | 55.9 | 44.8 | 34.0 | 30.2 | 45.6 |
| Minimum | 18.7 | 23.5 | 24.0 | 32.0 | 38.3 | 45.3 | 49.3 | 49.0 | 43.8 | 34.2 | 26.8 | 20.8 | 33.8 |
| Average | 23.8 | 28.8 | 30.3 | 38.6 | 45.7 | 52.4 | 55.9 | 55.8 | 49.9 | 39.5 | 30.4 | 25.5 | 39.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 3.45 | 4.85 | 3.32 | 2.96 | 3.67 | 2.64 | 3.32 | 5.15 | 10.06 | 9.12 | 6.28 | 6.35 | 61.17 |

SITKA FAA AP: 42

Period: 1957-71 | Mean annual degree days above 41 °F: 2,244 | Mean frost-free period: 191 days

Latitude: 57° 04' N. | Longitude: 135° 21' W. | Elevation: 15 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 37.1 | 41.7 | 42.5 | 47.5 | 53.5 | 57.6 | 60.6 | 61.8 | 57.8 | 50.5 | 43.3 | 39.0 | 49.4 |
| Minimum | 28.6 | 32.6 | 32.6 | 35.7 | 41.0 | 46.9 | 50.8 | 51.5 | 47.8 | 41.4 | 35.1 | 32.2 | 39.4 |
| Average | 32.9 | 37.2 | 37.6 | 41.6 | 47.3 | 52.3 | 55.7 | 56.7 | 52.8 | 46.0 | 39.2 | 35.6 | 44.6 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 7.25 | 6.10 | 5.93 | 5.87 | 4.85 | 3.95 | 5.44 | 7.73 | 10.93 | 12.42 | 9.94 | 8.16 | 88.17 |

SKAGWAY: 24

Period: 1922-36 | Mean annual degree days above 41 °F: 2,175 | Mean frost-free period: 111 days

Latitude: 59° 28' N. | Longitude: 135° 19' W. | Elevation: 18 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 29.6 | 30.4 | 38.7 | 48.5 | 58.6 | 66.9 | 66.7 | 65.5 | 57.8 | 47.9 | 39.4 | 29.4 | 48.4 |
| Minimum | 19.6 | 19.6 | 26.3 | 31.6 | 38.8 | 44.6 | 48.3 | 46.9 | 40.8 | 36.0 | 28.5 | 19.8 | 33.4 |
| Average | 24.6 | 25.0 | 32.5 | 40.1 | 48.7 | 55.8 | 57.5 | 56.2 | 49.4 | 42.0 | 34.0 | 24.6 | 40.9 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 2.76 | 1.75 | 1.71 | 1.65 | 1.21 | .93 | 1.64 | 1.96 | 3.53 | 5.08 | 4.70 | 3.29 | 30.21 |

SOLDOTNA 6 W.: 11

Period: 1962-71 | Mean annual degree days above 41 °F: 1,592 | Mean frost-free period: 94 days

Latitude: 60° 28' N. | Longitude: 151° 14' W. | Elevation: 85 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 19.2 | 27.1 | 34.0 | 43.8 | 53.7 | 61.5 | 65.8 | 64.1 | 57.6 | 42.0 | 28.0 | 20.9 | 43.1 |
| Minimum | -2.5 | 3.4 | 6.3 | 24.5 | 32.3 | 42.1 | 45.0 | 43.4 | 35.1 | 21.0 | 7.6 | 1.3 | 21.6 |
| Average | 8.4 | 15.3 | 20.2 | 34.2 | 43.0 | 51.8 | 55.4 | 53.8 | 46.4 | 31.5 | 17.8 | 11.1 | 32.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | .89 | 2.73 | 1.23 | .71 | 1.12 | 1.53 | 1.65 | 2.49 | 1.89 | 2.12 | .71 | 1.49 | 18.56 |

TAKU PASS (CANYON ISLAND): 28

Period: 1936-44 | Mean annual degree days above 41 °F: 2,138 | Mean frost-free period: 136 days

Latitude: 58° 33' N. | Longitude: 133° 40' W. | Elevation: 175 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 26.7 | 28.0 | 39.0 | 51.4 | 60.0 | 66.3 | 65.5 | 64.4 | 57.7 | 48.3 | 33.7 | 26.7 | 47.3 |
| Minimum | 15.6 | 16.6 | 24.0 | 32.9 | 39.0 | 43.8 | 45.7 | 44.9 | 42.1 | 36.6 | 24.5 | 18.3 | 32.0 |
| Average | 21.2 | 22.3 | 31.5 | 42.2 | 49.5 | 55.1 | 55.6 | 54.7 | 49.9 | 42.5 | 29.1 | 22.5 | 39.7 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.81 | 3.66 | 3.65 | 2.54 | 2.14 | 2.15 | 2.79 | 4.05 | 6.36 | 11.21 | 8.50 | 6.84 | 60.70 |

TENAKEE: 37

Period: 1941-50 | Mean annual degree days above 41 °F: 2,158 | Mean frost-free period: 146 days

Latitude: 57° 47' N. | Longitude: 135° 15' W. | Elevation: 19 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 33.9 | 36.2 | 41.8 | 46.9 | 57.3 | 63.0 | 63.4 | 64.7 | 59.1 | 49.1 | 38.7 | 34.5 | 49.0 |
| Minimum | 23.3 | 25.3 | 29.3 | 33.0 | 38.5 | 44.5 | 47.9 | 47.8 | 44.9 | 37.6 | 28.5 | 26.1 | 35.6 |
| Average | 28.6 | 30.8 | 35.6 | 40.0 | 47.9 | 53.8 | 55.7 | 56.3 | 52.0 | 43.4 | 33.6 | 30.3 | 42.3 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 5.07 | 3.87 | 4.32 | 3.29 | 2.72 | 2.48 | 4.71 | 4.66 | 7.75 | 11.28 | 7.18 | 5.87 | 63.20 |

## TREE POINT LIGHT STATION: 60

Period: 1957-70 | Mean annual degree days above 41 °F: 2,554 | Mean frost-free period: 199 days

Latitude: 54° 48' N. | Longitude: 130° 56' W. | Elevation: 36 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 39.3 | 44.8 | 45.4 | 50.1 | 55.1 | 59.5 | 62.6 | 63.2 | 59.3 | 53.1 | 45.4 | 42.2 | 51.7 |
| Minimum | 28.4 | 33.1 | 33.2 | 37.1 | 42.2 | 48.3 | 51.6 | 51.3 | 48.2 | 42.8 | 35.8 | 32.1 | 40.3 |
| Average | 33.9 | 39.0 | 39.3 | 43.6 | 48.7 | 53.9 | 57.1 | 57.3 | 53.8 | 48.0 | 40.6 | 37.2 | 46.0 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 9.55 | 8.92 | 7.33 | 7.22 | 4.69 | 4.56 | 5.06 | 7.23 | 9.82 | 15.80 | 11.61 | 11.08 | 102.87 |

## UGANIK BAY: 6

Period: 1952-64 | Mean annual degree days above 41 °F: 1,749 | Mean frost-free period: 121 days

Latitude: 57° 43' N. | Longitude: 153° 19' W. | Elevation: 50 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 35.7 | 37.2 | 38.5 | 44.5 | 52.8 | 60.9 | 64.4 | 64.2 | 56.7 | 47.3 | 39.9 | 34.3 | 48.0 |
| Minimum | 24.2 | 24.0 | 24.4 | 29.6 | 35.6 | 42.4 | 47.2 | 45.9 | 40.2 | 33.1 | 27.9 | 22.6 | 33.1 |
| Average | 30.0 | 30.6 | 31.5 | 37.1 | 44.2 | 51.7 | 55.8 | 55.1 | 48.5 | 40.2 | 33.9 | 28.5 | 40.6 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 4.21 | 3.18 | 2.61 | 3.39 | 2.75 | 1.83 | 2.03 | 2.44 | 4.11 | 6.49 | 5.91 | 5.16 | 44.11 |

## VALOEZ: 18

Period: 1957-71 | Mean annual degree days above 41 °F: 1,611 | Mean frost-free period: 124 days

Latitude: 61° 08' N. | Longitude: 146° 21' W. | Elevation: 20 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | (°F) | | | | | | | | | | | | |
| Maximum | 25.7 | 31.4 | 35.8 | 45.8 | 54.0 | 60.7 | 61.9 | 60.8 | 54.8 | 44.1 | 33.1 | 26.3 | 44.5 |
| Minimum | 10.9 | 15.6 | 18.7 | 28.9 | 36.1 | 44.0 | 46.5 | 45.0 | 38.6 | 30.8 | 20.0 | 13.1 | 29.0 |
| Average | 18.3 | 23.5 | 27.3 | 37.4 | 45.1 | 52.4 | 54.2 | 52.9 | 46.7 | 37.5 | 26.6 | 19.7 | 36.8 |
| | Inches | | | | | | | | | | | | |
| Precipitation | 3.90 | 4.89 | 4.77 | 2.61 | 3.27 | 2.31 | 4.05 | 5.46 | 7.65 | 7.25 | 6.34 | 4.65 | 57.15 |

VIEW COVE: 58

Period: 1933-46 | Mean annual degree days above 41 °F: 2,725 | Mean frost-free period: 208 days

Latitude: 55° 04' N. | Longitude: 133° 04' W. | Elevation: 13 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 41.6 | 41.8 | 45.4 | 51.3 | 57.2 | 62.5 | 62.6 | 65.9 | 62.5 | 54.6 | 47.1 | 42.0 | 52.9 |
| Minimum | 32.5 | 30.8 | 32.5 | 37.4 | 41.2 | 46.2 | 49.9 | 50.9 | 47.7 | 42.6 | 37.3 | 32.7 | 40.1 |
| Average | 37.1 | 36.3 | 39.0 | 44.4 | 49.2 | 54.4 | 56.3 | 58.4 | 55.1 | 48.6 | 42.2 | 37.4 | 46.5 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 20.26 | 12.36 | 13.52 | 12.16 | 7.73 | 5.18 | 6.05 | 7.53 | 11.89 | 22.04 | 22.64 | 19.55 | 160.91 |

WHALE ISLAND: 8

Period: 1924-38 | Mean annual degree days above 41 °F: 1,501 | Mean frost-free period: 107 days

Latitude: 57° 58' N. | Longitude: 152° 46' W. | Elevation: 8 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 34.7 | 35.0 | 38.1 | 42.0 | 48.2 | 55.6 | 59.8 | 60.9 | 55.8 | 47.1 | 40.3 | 35.1 | 46.1 |
| Minimum | 22.9 | 22.9 | 25.2 | 30.3 | 36.2 | 42.5 | 46.5 | 47.5 | 42.0 | 34.8 | 27.5 | 24.0 | 33.5 |
| Average | 28.8 | 29.0 | 31.7 | 36.2 | 42.2 | 49.1 | 53.2 | 54.2 | 48.9 | 41.0 | 33.9 | 29.6 | 39.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 3.87 | 4.62 | 2.84 | 3.52 | 6.88 | 4.22 | 3.16 | 3.46 | 3.70 | 6.74 | 5.48 | 4.74 | 53.23 |

WHITTIER: 15

Period: 1957-71 | Mean annual degree days above 41 °F: 1,624 | Mean frost-free period: 144 days

Latitude: 60° 47' N. | Longitude: 148° 41' W. | Elevation: 31 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 29.8 | 33.1 | 33.6 | 42.4 | 50.1 | 58.3 | 60.1 | 60.1 | 53.4 | 42.3 | 34.0 | 29.4 | 43.9 |
| Minimum | 20.6 | 23.0 | 22.8 | 31.0 | 36.5 | 45.0 | 48.5 | 48.1 | 42.1 | 32.2 | 24.9 | 20.6 | 33.0 |
| Average | 25.2 | 28.1 | 28.2 | 36.7 | 43.3 | 51.7 | 54.3 | 54.1 | 47.8 | 37.2 | 29.5 | 25.0 | 38.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 12.22 | 10.03 | 12.23 | 13.16 | 15.22 | 9.88 | 13.77 | 13.17 | 16.86 | 19.38 | 18.31 | 23.68 | 177.91 |

## WRANGELL: 45

Period: 1957-71 | Mean annual degree days above 41 °F: 2,144 | Mean frost-free period: 169 days

Latitude: 56° 28' N. | Longitude: 132° 23' W. | Elevation: 37 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 32.1 | 38.6 | 41.6 | 48.2 | 55.7 | 61.1 | 63.4 | 63.6 | 57.0 | 49.4 | 40.7 | 35.9 | 48.9 |
| Minimum | 21.7 | 27.8 | 29.7 | 34.3 | 39.0 | 44.9 | 47.8 | 47.2 | 43.5 | 37.2 | 30.0 | 25.8 | 35.7 |
| Average | 26.9 | 33.2 | 35.7 | 41.3 | 47.4 | 53.0 | 55.6 | 54.9 | 50.3 | 43.3 | 35.4 | 30.9 | 42.3 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.36 | 5.92 | 7.10 | 4.85 | 3.95 | 4.28 | 4.74 | 6.07 | 8.60 | 13.14 | 9.00 | 7.74 | 81.75 |

## YAKATAGA FAA: 22

Period: 1953-67 | Mean annual degree days above 41 °F: 1,454 | Mean frost-free period: 141 days

Latitude: 60° 05' N. | Longitude: 142° 30' W. | Elevation: 27 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 33.6 | 35.9 | 37.8 | 43.4 | 49.0 | 54.4 | 57.5 | 57.9 | 54.5 | 46.8 | 39.0 | 34.4 | 45.3 |
| Minimum | 23.0 | 24.5 | 25.3 | 30.6 | 37.1 | 44.0 | 48.1 | 47.6 | 42.7 | 35.1 | 29.2 | 24.6 | 34.3 |
| Average | 28.3 | 30.2 | 31.6 | 37.0 | 43.1 | 49.2 | 52.8 | 52.8 | 48.6 | 41.0 | 34.1 | 29.5 | 39.8 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 6.33 | 8.00 | 4.78 | 4.96 | 5.46 | 4.14 | 5.98 | 8.95 | 11.72 | 14.70 | 10.90 | 10.93 | 96.85 |

## YAKUTAT WSO AP: 23

Period: 1957-71 | Mean annual degree days above 41 °F: 1,447 | Mean frost-free period: 110 days

Latitude: 59° 31' N. | Longitude: 139° 40' W. | Elevation: 28 feet

| Mean temperature | Month | | | | | | | | | | | | Mean annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | | | | | | (°F) | | | | | | | |
| Maximum | 30.1 | 35.3 | 37.4 | 43.5 | 50.2 | 56.4 | 59.8 | 59.7 | 55.0 | 47.0 | 37.5 | 32.6 | 45.3 |
| Minimum | 15.7 | 21.4 | 21.6 | 28.5 | 35.2 | 43.4 | 47.2 | 45.7 | 40.9 | 33.3 | 25.7 | 20.2 | 31.6 |
| Average | 22.9 | 28.4 | 29.5 | 36.0 | 42.7 | 49.9 | 53.0 | 52.7 | 48.2 | 40.2 | 31.6 | 26.4 | 38.4 |
| | | | | | | Inches | | | | | | | |
| Precipitation | 9.51 | 11.09 | 9.87 | 8.15 | 9.02 | 6.00 | 10.36 | 10.46 | 15.26 | 19.46 | 14.01 | 13.86 | 137.05 |

**Farr, Wilbur A.; Hard, John S.** Multivariate analysis of climate along the southern coast of Alaska—some forestry implications. Res. Pap. PNW-RP-372. Portland, OR: U.S. Deparment of Agriculture, Forest Service, Pacific Northwest Research Station; **1987.** 38 p.

A multivariate analysis of climate was used to delineate 10 significantly different groups of climatic stations along the southern coast of Alaska based on latitude,longitude, seasonal temperatures and precipitation, frost-free periods, and total number of growing degree days. The climatic stations were too few to delineate this rugged, mountainous region into distinct climatic zones.

Keywords: Climate, multivariate analysis, coastal Alaska, Alaska (coastal).



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